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A NEW WAY TO MANAGE VENDORS

Build a vendor management
office that works

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INVITATION TO STEAL

Automation can save millions—
but not when it enables fraud

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How to Have It All

**Lower costs *and* money for innovation.
Budget flexibility is the key.**

The first in our **CIO Leadership Agenda** series. Page 38

BY SUSANNAH PATTON

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Catherine Brune**
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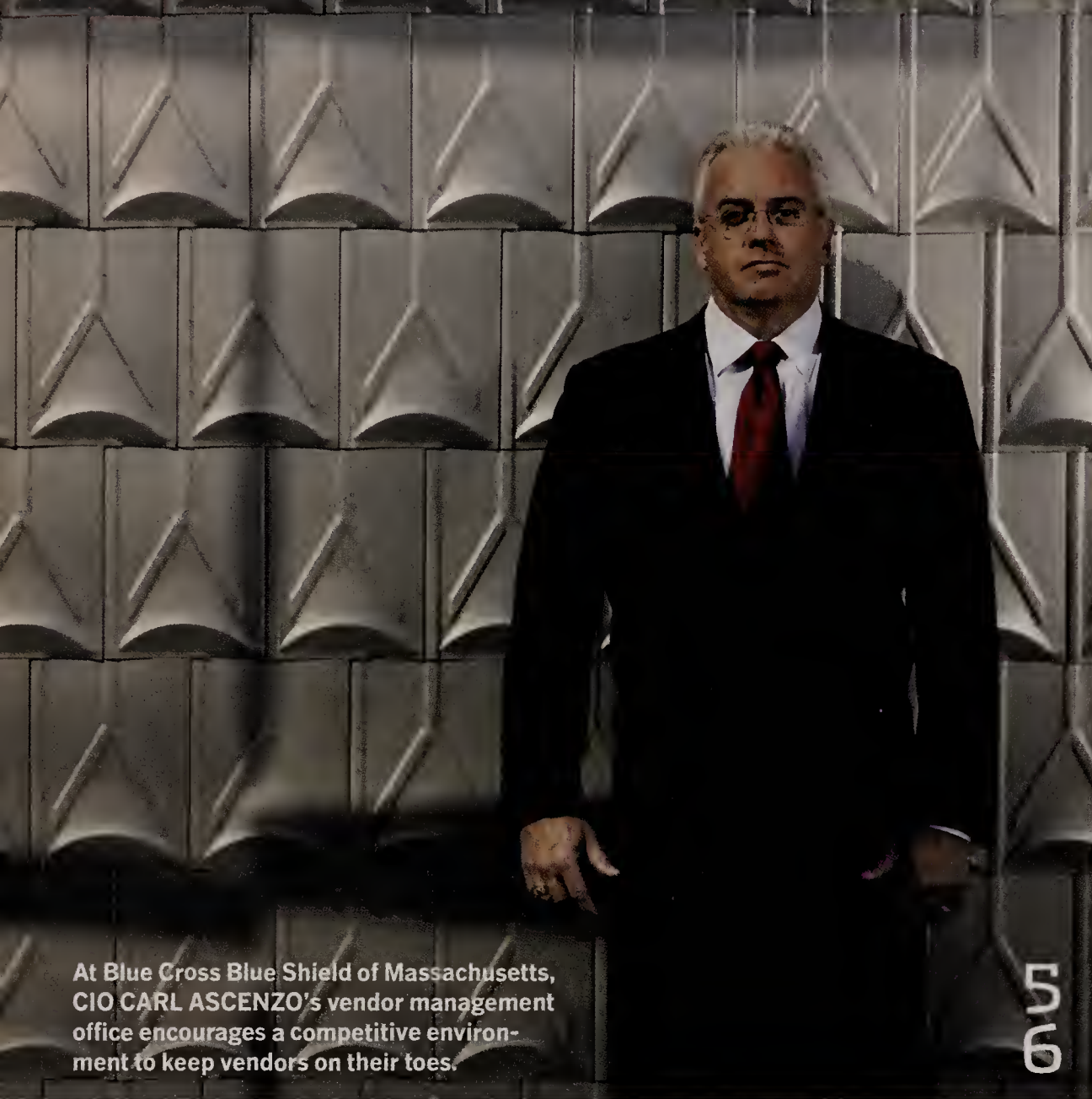
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New Stuff for the New Year

Because change is a constant



2004 GRAND NEAL WINNER

For the second year in a row, *CIO* magazine has won the prestigious Jesse H. Neal National Business Journalism Award for editorial excellence.

In the past five years, *CIO* has won both the American Business Media's top honor, the Grand Neal Award, and the ASBPE Magazine of the Year—not once but twice each. However, one thing we've learned from the companies we write about is that any business that rests on its laurels eventually falls victim to complacency. An "aren't we great, let's just keep doing what we're doing" attitude can be a death knell for even the most successful organizations.

While there's no absolute formula for success, three ingredients are key: a deep understanding of customer needs, great talent and a good plan. *CIO* has always had a close relationship with CIOs, and we have the best writers, editors and designers in the business. You'll find some of the plan outlined below.

We redesigned *CIO* five years ago, simultaneously redefining our editorial mission to be more thought-provoking and challenging at a time when CIOs were on top of the world. We changed our page size and binding, which allowed for enhanced design and expanded content.

A lot has changed since 2000. On the content front, CIOs are again looking for validation, leadership support and practical help in the face of new and greater challenges. So we'll keep up our rigorous business reporting and sharp writing, but we'll enhance our leadership coverage and add more practical guidance and support for beleaguered CIOs.

In terms of publishing, as the technology industry contracts, so does the number of advertising pages available to run in magazines like *CIO*. Confluent with that trend are two others, equally relevant to our business: the increasing popularity of online media, and the clear awareness on the part of CIOs that they have as much to learn from their peers as they do from other industry experts (analysts, consultants and researchers).

So here's how we're responding to these various developments to serve you better:

We've renamed and redesigned two popular columns: In Forum, you'll find ideas and insights from the CIO Executive Council. It's more focused, more active, and all about CIOs learning from the experience and knowledge of their peers. And we've moved Susan Cramm's popular Executive Coach column to the front of the magazine so that it's easier to find. Her advice is spot on given the increasing complexities of the CIO role.

We've tightened the magazine and freshened its look; it's cleaner and more up-to-date. We've incorporated a few new fonts into our display type. Most of the changes won't even be noticed on a conscious level; the one somewhat radical thing we've done is to reorganize our Table of Contents around topics rather than the order they appear in the magazine.

Finally, we're combining two imperatives—the call for more focused leadership coverage and the demand for more integrated content across media—in our new CIO Leadership Agenda Series, which debuts in this issue (see Page 36) and which will find expression in print, online, in webcasts and in live events.

I'd love to know what you think about these enhancements—what you like, what you don't, and what else you would like to see.

Abbie Lundberg, Editor in Chief
lundberg@cio.com

PHOTO BY STEVEN VOTE



R.O. Ida, The CFO

The queen was in her counting house, counting all her company's savings. More specifically, when we caught up with R.O. Ida, the chief financial officer, she was tallying last month's savings, the result of a total mobility solution the Queen of Lean has begun implementing.

What's up with that jar full of old rings and tarnished coins on your ...

Shhhh! 2,997, 2,998, 2,999, three thousand dollars! Wow, right to the bottom line. And we haven't even reined in all the runaway mobility expenses yet. Oh, the jar.... It's stuff I found with my metal detector.

You're smiling, which is odd for a CFO; are you actually enjoying yourself?

It sure beats signing expense reports—they're what I like to call a salesman's best shot at creative writing! But what really gives me a kick is saving money, and that's what we're doing here now with our new total mobile strategy.

A strategy for all mobile services? Why not let individual departments decide what's best, or even the individuals themselves?

That's what got us into a big mess in the first place. Until recently, we had five different mobile service providers. We had hardware from eight different vendors. We had incompatible mobile email solutions. It was hard for us to guarantee security with such a rat's nest. And man, was it expensive. Tell you the truth, we had a really hard time just tracking the expense. To people like me, that's like not knowing the day of the week.

So what did you do?

I was complaining about this to a friend while we were window shopping, and she said, "Call Nokia." So I did. It wasn't just a business query—it was an S.O.S., because we were spending a third of our IT budget on mobility. After routine IT maintenance, we were left with



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zippo for strategic development. It was like throwing good money into a parking meter—there was just no return.

What did Nokia do for you?

For starters, they helped us develop a total mobile connectivity solution, with uniform high-speed remote access to give our road warriors the info they need no matter where they are, and quickly. They layered in just the right amount of security, including a secure VPN. And they gave our administrators real easy-to-use tools to assign access privileges based on user identity. This was our foundation.

Then what?

Slowly but surely, we developed a plan with Nokia to get rid of a lot of the incompatible, clunky mobile hardware and replace it with intelligent Nokia devices. They are built to work seamlessly together, which means fewer calls in the middle of the night from far-flung corners of the globe to our help desk. And less help-desk expense. With their guidance, our mobile workers get just what they need, but no more. I like that. Now we inventory all new devices, and maintenance and replacement schedules are predictable. I really like that.

Anything else?

You bet. Everyone knows the killer app today is email. It's the lifeblood for our mobile workers. Nokia worked with us to provide a uniform, simple, and highly reliable mobile email solution that has saved us big bucks. They helped us fine-tune the solution to the different devices our IT guys deploy, because some road warriors like to use their PDAs for mail, others like their laptops, and still others prefer their smart phones. Me—I just love the dollar savings that come from a single, predictable, and reliable mobile email solution.

Sounds like Nokia helped you find a key to the efficiency kingdom.

Yeah, and I didn't have to use my metal detector to find it. Now, if you'll excuse me, it's lunch time and I'd like to balance my checkbook. By the way, the time's out on your parking meter.



Interviewer Bill Laberis was editor-in-chief of *Computerworld* for ten years (1986-1996). He is president of Bill Laberis Associates, a custom publishing and content company (www.laberis.com). His columns, Webcasts, supplements and magazines are well-known and respected throughout the high-tech industry.

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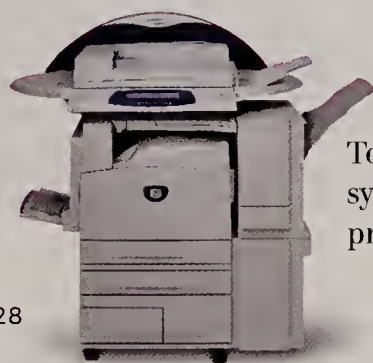
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InBox

What RFID Should Do

As businesses continue to struggle to meet high-growth expectations, it is natural that every few years a new technology will emerge as the silver bullet to all the woes ("Tag, You're Late," Nov. 15). And the latest one is RFID, which follows CRM, ERP and other similar, much-hyped (and later much-maligned) technologies.

RFID has great potential, maybe more than ERP and CRM, for enhancing business performance from a cost-savings perspective. But it also has the usual dangers of getting hijacked by a few vendors and big consulting firms and turning into a nightmare for the early adopters.

The first step is to clearly define the business case for implementing RFID. Get help conducting the study to define areas of improvement, technology readiness and the business case as a vendor-neutral strategy consultant. It's important to figure out how the business will use more real-time data, how the tags would alter the business processes and what RFID will mean for enterprise applications currently in use.

RFID should fit in with everything else you do. If you don't select the right middleware or address existing data growing exponentially, this could become an untamable animal.

Let us hope the industry has learned its lessons from implementations of previous silver-bullet solutions and will apply itself in learning and planning before considering a solution. It's good to remember that technology can do almost anything. The question is not what it could do; the question is what it should do.

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ERM: Three Steps Beyond

Great article on risk management

("Risk's Rewards," Nov. 1). Your three-point approach is as far as many organizations go, trying to implement ERM without overstressing already stretched budgets. To get the real "juice" out of risk management, though, an organization needs to go beyond and do the following:

- Set up formal risk monitoring by identifying trigger criteria to warn when risks are materializing into actual problems.
- Craft realistic contingency plans for activation when individual risks become problems.
- Create risk reserves in both the budgets and schedules of the organization's enterprises to pay for these contingency actions. (The sizing of these reserves is a discipline all its own.)

Unfortunately, these are the steps that cost money and cause the implementation delays that executives are seldom willing to accommodate.

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Finding the Hidden Talent

I disagree with Coy Thorp's statement that "colleges are doing a poor job of preparing workers" ("Fast Track Business Degrees," Trendlines, Nov. 1). The program at Northface University is but one example of the types of programs that are providing students with these much-needed skill combinations.

As an educator concerned with arming students with marketable career skills, I have, for years, paid close attention to the hiring practices of the IT industry. Consistently, IT jobs have required degrees in computer or other related sciences. This focus on technology skills at the expense of a combination of IT, business and lib-



eral arts skills has created the perception that colleges are not doing a good job of preparing their graduates. In fact, as noted in the article, many universities, particularly in their business schools, offer programs specifically designed to provide the trifecta of skills needed for success in corporate IT. A number of these programs have been in place for years and do an excellent job of providing students with significant knowledge in all three areas.

Some programs can be completed with as little as three years of study and still provide students with the aforementioned skills. So in response to suggestions that colleges aren't properly preparing IT professionals for work in the IT industry, I'd say that the IT industry is not looking in the right places for the talent they need.

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What Do You Think?

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trendlines

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NEW * HOT * UNEXPECTED



The Drug Industry Self-Polices with RFIDs

THEFT PREVENTION

The makers of popular prescription drugs have found a new weapon in the fight against thieves and counterfeiters: the tiny and controversial radio frequency identification (RFID) chip. Purdue Pharma, the manufacturer of the painkiller OxyContin, is now using RFIDs to track shipments of its theft-prone drug, and Pfizer plans to start putting the radio tags on bottles of its widely counterfeited Viagra drug by the end of 2005. The U.S. Food and Drug Administration gave RFID deployment a boost when it recently published guidelines to help other drugmakers get started before RFID labels

become mandatory in 2007.

"With RFID, the drug industry will be able to police itself for the first time," says Aaron Graham, vice president and chief security officer at Purdue Pharma and a former special agent at the Drug Enforcement Administration who has also worked undercover to combat international drug counterfeiting. Graham says it's difficult to estimate the black market for prescription drugs but that the World Health Organization previously stated 7 percent of the world's drugs are counterfeit. "Having met the people in Asia and Latin America who are involved in counterfeiting, I know that it's more than anecdotal," Graham says. While secondary wholesalers can now falsify the origin of a prescription drug in the supply chain, RFID will make it virtually impossible for counterfeit drugs to enter the legitimate supply chain.

Right now, wholesalers can buy drugs that have been smuggled into the country and send them on to pharmacies without much difficulty, Graham says. With RFID tags, pharmacists will be able to tell if the drug did not come from the manufacturer. Law enforcement officers using handheld readers also will be able to quickly check whether bottles they recover have been reported stolen. Graham says he often

Continued on Page 20

IT Hiring Perks Up

MANAGEMENT REPORTS

The IT job market has been in the doldrums for so long that it seemed a permanent condition. Things are starting to change, according to two recent surveys. Pay tied to specific IT skills has risen, and hiring plans are up. But the optimism is limited to a few specific job categories.

According to David Foote, president and chief research officer of IT research firm and management consultancy Foote Partners, pay is on the rise for certain skills. Foote Partners conducted a study involving

45,000 IT employees at 1,860 organizations in North America and Europe. The hottest skills, Foote says, are those associated with application development, groupware, networking and messaging. For employees in the networking arena, pay was up an average of 6 percent in the past year, followed by a 4.5 percent increase for IT pros with groupware/messaging expertise, and a 4 percent boost for staffers in applications development and programming languages.

CIOs said they expected a modest rise in IT hiring during



this first quarter of 2005, according to the Robert Half Technology IT Hiring Index and Skills Report, which polled more than 1,400 CIOs at randomly selected U.S. companies with more than 100 employees. The report also found that 11 percent of respondents planned to add

IT staff while 2 percent expected to trim staff levels. The 9 percent net gain is 6 percentage points higher than projections from a year ago.

Business expansion was cited by 41 percent of respondents as the main driver behind IT hiring.

—Megan Santosus

WI-FI HITS INTERSTATE REST STOPS

WIRELESS TECHNOLOGY One of the strangest Internet innovations in recent history was Microsoft's Internet toilet project. It was a widely reported weird-news item in the spring of 2003, later revealed to be a hoax, only later yet to be confirmed by Microsoft as an actual project, albeit a defunct one. The gist of the story was that Microsoft U.K. wanted to create a portable toilet, the iLoo, with a built-in high-speed Internet connection, wireless keyboard and height-adjustable plasma monitor—a contraption, so they said, that would appeal to the British market.



Now it seems that the rest room and the Internet are converging yet again. The latest front in the wireless hotspot movement is the interstate rest area. "I know it sounds strange at first, but when you think about it, rest areas are a great fit for Wi-Fi," says Mark Wheeler, CEO of I Spot Networks, a

wireless Internet service provider. Wheeler notes that highway travelers often actively seek out an Internet connection because the Internet has become so integral to 21st century life.

Working in conjunction with state transportation departments, I Spot Networks is rolling out hotspots along interstates in Iowa, Missouri and Nebraska. The company also targets more conventional hotspot locations, such as hotels and coffee shops, but it believes that heavily traveled interstate corridors are an overlooked hotspot opportunity.

In terms of rest area hotspots, a large effort is under way in Texas. In October 2003, the Texas Department of Transportation launched a project to provide free wireless Internet access in all of the state's rest areas and welcome centers, a project that they expect to complete by late 2005.

"Our main goal is safety," says Andy Keith, safety rest area program manager for the Texas DoT's maintenance division. "Anything we can do to encourage travelers to take more breaks makes our roadways safer." Keith adds that additional safety features can be pushed over the hotspots to visitors, such as weather updates and road conditions.

Michigan has also entered the rest-area hotspot movement, having partnered with SBC Communications to deploy hotspots in state parks, welcome centers and several rest areas. Other states may soon follow suit. "I'm contacted all the time by officials from other states," Keith says, "but I think they're waiting to see how much success we have in Texas before jumping in themselves."

—Jeff Vance

The Drug Industry Self-Polices

Continued from Page 19

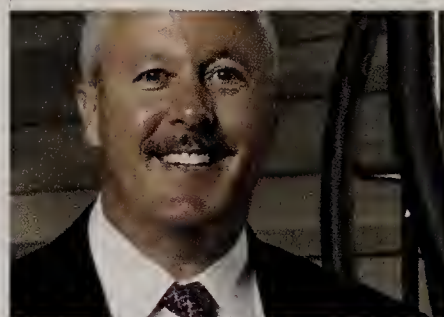
gets calls from state troopers who have found OxyContin bottles on a suspect. "Using RFID we'll be able to trace the bottles to specific pharmacies that have been robbed," he adds. "For the first time, the industry will be able to help law enforcement here."

While RFIDs can help stem financial losses due to theft, the technology doesn't come cheap. Purdue Pharma plans to invest \$2 million in infrastructure and 30 cents to 50 cents for each RFID label. The company also plans to donate handheld readers to each FBI field office and various other law enforcement agencies. "Anybody concerned about patient safety needs to make this investment," Graham says. Chuck Nardi, Purdue Pharma's information officer of commercial systems, says data read from RFID labels will be integrated into the com-

individual customer bottles.

RFID won't be a cure-all for the theft and counterfeit problems that plague the drug industry, however, says Forrester analyst Laura Ramos. "Until other industries such as retail are more successful with RFID, I would be concerned [the drug companies] don't have a good example to follow," Ramos says. Ramos also points out that efforts to track the drugs may not work if RFID isn't widely adopted by wholesalers and others in the distribution chain. "Until we figure out a way to regulate the smaller distributors out there, there will be doors open for fraud, counterfeit and theft to occur," she says.

Graham and Nardi counter that they are already shipping the RFID bottles to retailers Wal-Mart and H.D. Smith Wholesale Drug and are receiving data from phar-



RFID FANS: AARON GRAHAM (left), VP and chief security officer, and **CHUCK NARDI**, information officer of commercial systems, say that RFID technology will help Purdue Pharma get valuable information about its OxyContin prescription drug.

pany's SAP system and provide valuable information on "which customers got which bottles on which date." For the moment, RFID labels will go on only the larger bottles sent to pharmacies, not the

macies that have RFID readers. While not fail-safe, "RFID is the best technology I've seen in 20 years to identify counterfeit drugs and deter counterfeiters," Graham says.

—Susannah Patton

OUR KNOWLEDGE OF WHAT CIOs NEED GOES BACK *and forward* A LONG WAY.



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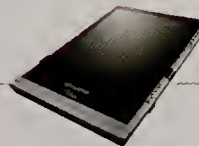
THE POSSIBILITIES ARE INFINITE



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LifeBook[®] Notebooks



Stylistic[®] Tablet PCs



PRIMERGY[®] Servers



5Wits founder MATT DuPLESSIE (left) created Tomb, an Egyptian-inspired interactive adventure that pits teams of flashlight wielding “explorers” against the Pharaoh’s challenges. An explorer (right) enters Tomb where computer-controlled special effects guide visitors in a puzzle-solving adventure.

The New Pocket-Sized Theme Park Concept

INTERACTIVE ENTERTAINMENT

Ever wanted to own your own theme-park attraction—not some Sim video game, but a real, walk-through interactive adventure with tricks, traps and puzzles? Say, something themed around an Egyptian tomb, with collapsing ceilings, shifting floors, waterfalls and fog?

Until now, you had to be a Disney mogul to pull off something so sophisticated. But technology has made it more viable for individuals to play theme-park entrepreneur—both in terms of cost and space. In fact, the fun house described above exists. And it cost less than \$1 million to build and fits in just 6,000 square feet (including gift shop and Starbucks-style café) tucked into a commercial block on the south side of Boston’s Fenway Park.

This pocket theme park is called Tomb, conceived by 27-year-old Matt DuPlessie, who parlayed an MIT mechanical engineering degree, a Harvard MBA and a stint as a project manager for a Walt Disney contractor to become a real-life dungeon master.

Tomb, opened in October 2004, is the first urban adventure for DuPlessie’s company, 5Wits. It challenges groups of three to 15 people to enter a painstakingly recreated Egyptian archaeology site, move through tomb chambers solving puzzles and emerge alive (or not). A pharaoh’s ghost taunts and challenges the adventurers throughout the journey, which takes about 40 minutes. Uniquely, the pharaoh, with furtive assistance from a live “guide,” can make the riddles easier or harder depending on how well the group is doing, truly customizing the experience. In effect, “the show isn’t happening to

the visitors, the visitors are happening to the show,” says DuPlessie.

The required participation is a big shift in perspective—one that many visitors don’t anticipate. At first they mill about, expecting events to unfold, when in fact, they have to act to trigger events. For example, a riddle tells explorers to illuminate the pharaoh’s face. It’s up to the guests to pick up two polished metal mirrors and figure out how to use them. Their task: to bend a light beam to shine on the appropriate spot in the chamber (where a photo sensor will then trigger one of Tomb’s finales). And in this adventure, failure is an option, rewarded by the simulated demise of your entire party.

DuPlessie programmed the whole Tomb show by himself in a few months, proving, he says, that the technology is becoming

suitable for “the average Joe.” The program that runs all of Tomb’s effects and events fits on three compact flash memory cards, the kind that hold photos in digital cameras. The hardware DuPlessie uses sits on a rack in a space no bigger than a walk-in closet.

The downsized theme-show technology is so portable, it allows DuPlessie to take his concept on the road. After a year, Tomb will be disassembled, packed and shipped to a new downtown location in another city, and a whole new adventure will fill its Fenway space. DuPlessie says he’s considering a James Bond-style adventure or an underwater struggle modeled on Jules Verne’s *20,000 Leagues Under the Sea*. He’s already noodling ways to submerge guests without actually drowning them.

—Richard Pastore

MAYBE LAWYERS SHOULD BILL BY THE PROJECT...

Since September 2003, the Recording Industry Association of America has filed 7,700 lawsuits against defendants for alleged file-trading violations on peer-to-peer networks.

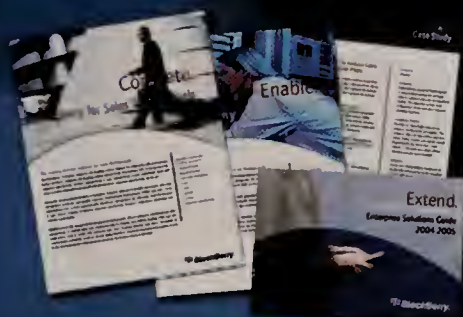


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10 Top

Information Management Concerns

...

- 1 IT and business alignment
- 2 Retaining IT professionals
- 3 Security and privacy
- 4 IT strategic planning
- 5 Speed and agility
- 6 Government regulation
- 7 Complexity reduction
- 8 IT governance
- 8 Information architecture (a tie with above)
- 10 Business process reengineering

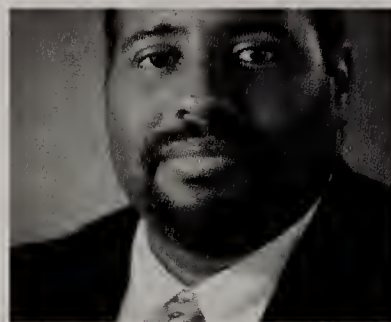
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SOURCE: Survey of nearly 300 firms conducted by the Society for Information Management

PepsiCo Launches Another CIO's Career

ON THE MOVE After three years as vice president and CIO at PepsiCo's beverages and foods division, Bruce Carver, 43, was hired as vice president and CIO at automotive parts supplier Dana in August 2004. Carver joins an impressive list of CIOs who logged time within PepsiCo's IT ranks prior to moving on to other companies.

Among the current CIOs who at one time worked at the food and beverage giant are Bill Franks of Saks, Bill Homa of Hannaford Bros., Kathy Lane of Gillette, Patricia Morrison of Office Depot and Rafael Sanchez of Burger King. For his part, Carver doubts that he would have landed on Dana's radar without his PepsiCo experience. "Pepsi is a very



BRUCE CARVER,
VP and CIO of Dana, logged time in PepsiCo's IT ranks.

complex organization," Carver says. "Having the opportunity to learn how to maneuver through such a complex business is invaluable experience for an IT executive."

PepsiCo is one of a handful of companies, including General Electric, Honeywell and Procter & Gamble, that are known among CIOs and headhunters as CIO factories, regularly turning out high-caliber IT executives who move on to become CIOs elsewhere.

PepsiCo's reputation as a CIO factory is attributed to the company's size and complexity as well as the number of IT executives who've left to move into CIO positions with other organizations. Many IT executives have left, says one headhunter who didn't want to be named, because PepsiCo was for years a marketing- and finance-driven company, and IT

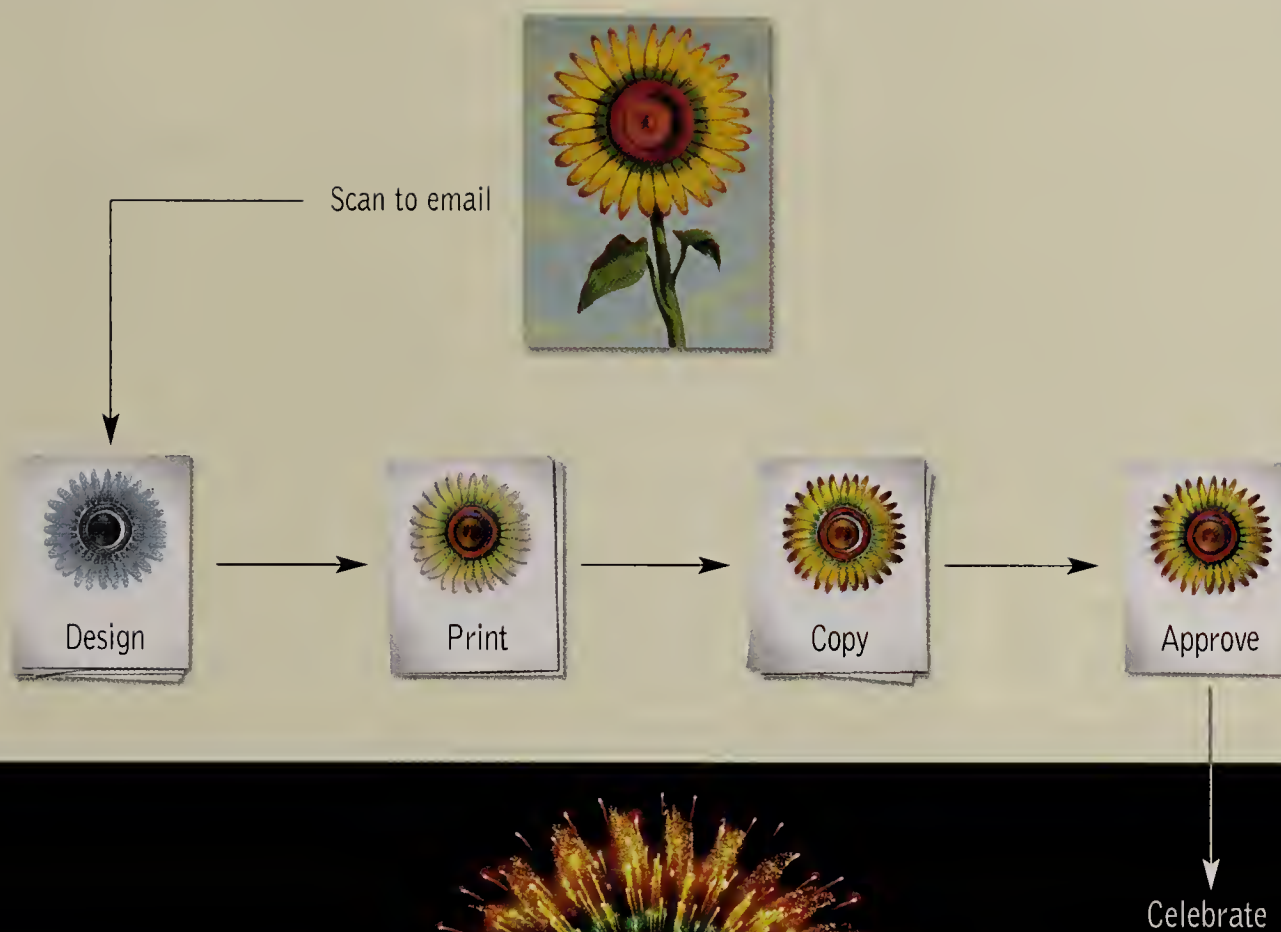
didn't garner much support.

Carver says the status of IT within PepsiCo started to change when Tom Trainer joined as global CIO in May 2003. Indeed, Carver didn't leave PepsiCo because IT wasn't valued. When he was contacted by Dana in June 2004, Carver was heavily involved with an ERP implementation and wasn't actively looking for a new job. Yet he was receptive to Dana's

pitch because he wanted to be a global CIO, an opportunity he felt he wouldn't have at PepsiCo since Trainer had recently stepped into that position. "There aren't too many opportunities for global CIO jobs, so when Dana approached me, I

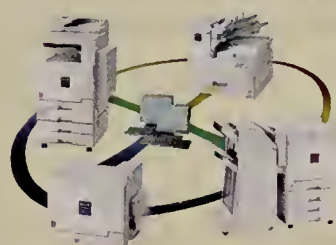
was intrigued," Carver says. In considering the Dana job, Carver felt he could do more for the bottom line there than he could in his divisional CIO role at PepsiCo. In addition, there was a good fit between Dana's needs and Carver's skills. Mike Burns, who joined Dana as CEO in March 2004 (and to whom Carver reports), was looking for a CIO who could help the 100-year-old holding company integrate its disparate divisions. Carver has a history of working on large integration and change management projects; while at PepsiCo he was in charge of the IT systems integration when the company acquired Quaker Oats and Tropicana. In the end, says Carver, the ability to positively shape the business was a key factor in his decision to take the Dana job.

—Meridith Levinson



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ONLINE COMMUNITIES Want a date? Looking for a job? How about unloading that old sofa? If you answered yes to any of these questions, you may have already stumbled upon Craigslist (www.craigslist.org), the hottest Web bulletin board and online community on the Internet.

Started by San Francisco Bay-area computer engineer Craig Newmark in 1995, Craigslist has morphed from a small-circulation e-mail newsletter into an online institution and first stop for Internet users of all stripes who are looking to buy, sell, meet or otherwise communicate. Now serving more than 75 cities worldwide, and 6 million visitors a month, Craigslist is disarmingly simple, employing a text-and-link design that screams 1996. But the site is a scrappy survivor of the dotcom bust that decimated many prettier startups.

Customer service is Newmark's mantra—and it's his answer to just about every question having to do with Craigslist's success and its mission. "There's no scientific methodology here," Newmark says, "and that's probably a good thing. People try to make decisions by looking at statistics, and most of the time they're fooling themselves. If you provide good customer service on a regular basis, people will notice."



CRAIG NEWMARK, a computer engineer by training, started Craigslist in 1995. Launched as a modest local e-mail newsletter in San Francisco, Craigslist now serves 75 cities, has \$10 million to \$15 million in revenues, and counts eBay as a major investor.

That may strike some as starry-eyed, but Newmark has been able to turn his obsession into a nice living, says Charlene Li, a principal analyst for devices, media and marketing at Forrester. "Craigslist is making between \$5 million and \$10 million with just 15 employees," she says. The revenue

comes only from fees for posting help-wanted ads.

eBay, which knows a little something about online communities, has taken note. Last summer, the online auctioneer purchased a 25 percent stake in Craigslist.

—Paul Roberts

WHAT SEARCHING SAYS ABOUT BUYING

ONLINE SHOPPING Consumers' use of online search engines can say a lot about their buying tendencies. In a study conducted by consumer market research company ComScore Networks, senior analyst Graham Mudd analyzed search engine usage among people looking to purchase computer products and consumer electronics equipment. Such products, says Mudd, typically are not impulse buys and involve plenty of prepurchase research; hence consumers' use of search engines to gather information about high-tech products yields some interesting findings. Among the most surprising tidbit: So-called branded search terms using specific brand or model names don't lead consumers to purchase at higher rates than using generic terms. That discovery, says Mudd, is counterintuitive.

OTHER FINDINGS:

- » **25%** of people who searched online for computer products or consumer electronics purchased a product in that category within 90 days.
- » **92%** of the "search-influenced" purchases were made offline.
- » Most of the remaining **8%** of consumers who purchased online did so during a subsequent online session.
- » **70%** of the search volume involved generic terms (such as "plasma TV" or "digital camera"); **60%** of the searches that resulted in purchases (known as the conversion rate) used generic terms.

THE TAKE-AWAYS FOR ONLINE RETAILERS:

- » Websites should have plenty of product information; online sales don't indicate a site's ultimate value; and—for those retailers with brick-and-mortar operations—directions to a store should be an online no-brainer.
- Megan Santosus

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APTSOFT

Fast Track → Alignment

Agility in Today's Hyper-Competitive Market Requires Aligning IT with Your Business: How Two CIOs Closed the "Alignment Gap" With a New Approach

An insurance company with more than \$13 billion in assets finds its potential online customers slipping through its fingers. Another enterprise—one that prides itself on its expertise in building customer loyalty—can't quite harness the customer information of its clients in real time.

Two unique process breakdowns, one common solution: Alignment.

These two companies required business process/IT alignment to quickly harmonize existing technology with business strategies, goals and processes. To achieve alignment—a task they realized surpasses traditional solutions—they turned to AptSoft's unique technology that supports a new approach: Complex Event Processing (CEP).

The AptSoft results are impressive: Development timeframes

shrank from months to days and increased revenues and reduced costs were captured within weeks of deployment,

resulting in double- and even triple-digit ROIs. Read on to learn how these CIOs closed the alignment gap—and then see whether your organization is ready to take the AptSoft Challenge!



Re: Alignment and the Role of EDAC Driven CEP

For years, business process/IT alignment, defined as the ability for IT to control the execution of the right process, at the right time, in the right sequence, for the right business purpose has been at the top of corporate "to do" lists for business and IT leaders alike. Indeed, as more companies grasp

alignment's impact on corporate agility, the practice translates into a competitiveness issue, says Mark Ehr, research director at Enterprise Management Associates, a technology analyst firm. "Particularly in verticals such as financial services, people are jumping on the [alignment] bandwagon because they realize they must do so in order to stay competitive," Ehr says.

Because alignment requires IT infrastructure to perform at new levels of speed, cost-effectiveness, flexibility and collaboration between systems, machines and people, progress is almost always frustratingly slow. One of the challenges is that traditional integration or process management solutions require generous doses of brittle custom code to handle the complexity, dynamics and closed-loop monitoring requirements when operationalizing business processes.

Now, though, there's a better approach—Complex Event Processing using AptSoft's Event-Driven Application Collaboration™ (EDAC) technology, which senses event patterns in all layers of IT infrastructure, evaluates them and gener-



Alignment Gap

CIOs realize that the alignment gap is a barrier to greater agility.

Existing Systems

APPLICATIONS	DATABASES	EAI
MACHINES	WEB SERVICES	HOSTED APPLICATIONS

ates responses in real time. "We are seeing a lot of movement toward event-driven technology—which could help bring about the ultimate in alignment between IT and business," says Les Yeamans, founder of New Rochelle, N.Y.-based ebizQ.net, a Web portal focused on business integration.

Behind the Curtain

The software architecture designed by AptSoft is very unique. Commercial integration software and custom-coded solutions depend upon a predictable set of stable business requirements, but by focusing on the requirements for alignment, AptSoft took a different path.

"We realized that alignment requires an approach that is flexible, fast, cost-effective and enables collaboration between systems, machines and people," says David Cameron, AptSoft's vice president of strategic products, "and that is the opposite of what yesterday's solutions provide." So features such as a user interface that simplifies the authoring of complex event patterns and a unified metadata layer shared by all components are critical differentiators for alignment. Says Cameron: "We assumed a moving set of requirements, and built our software to enable our customers to execute against them successfully over and over again."

AptSoft CEO Frank Chisholm says that's why AptSoft's approach is so compelling and relevant to

the objectives of today's CIOs. "A major paradigm shift is required for CIO's to support corporate agility. That shift is represented by the emerging need for EDAC Driven CEP technology to enable the seamless collaboration of existing elements of IT infrastructure in support of strategic objectives."

Take the AptSoft Challenge

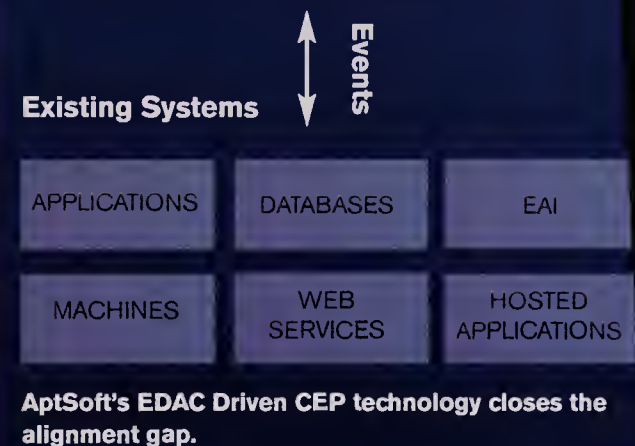
How serious is AptSoft about helping companies achieve business process/IT alignment? So serious that Frank Chisholm invites you to take the AptSoft Challenge. Here's how he

describes it: "Together, we identify a strategic business process with which to align your existing IT systems. We are so confident that we can deliver a working prototype in five person-days, that if we don't, we will pay for the IT resources assigned to this project for those days."

Don't miss this chance to close the alignment gap at your organization. Visit us at www.aptsoft.com and take the AptSoft Challenge.



EDAC Driven CEP



Case Study: Insuring Results

To bring in new business, an insurance company (which, for competitive reasons, prefers to remain anonymous) had set up a self-service Web site targeted at consumers. But results weren't measuring up.

So the company's CIO offered a number of vendors the opportunity to solve this strategic problem: Too little Web site traffic was turning into business, particularly in comparison with key competitors. That, in turn, was reducing revenues and marketing effectiveness.

Four specific problems needed to be addressed:

- A significant percentage of quote requests started online by consumers were simply abandoned incomplete. The company had no good method for trying to rekindle this business.
- When consumers submitted quote

requests for automobile insurance, if they failed to provide a vehicle identification number, the system would simply provide a default price based on the most expensive class of coverage—a luxury automobile, for example. This would often frighten off prospective customers, so the company wanted a timely way to indicate that providing the vehicle number would yield a more accurate and probably much more appealing price.

- When consumers claimed to have had no motor-vehicle violations for two or more years, the insurer needed to be able to seek clarification if its own information was at odds with this assertion.

- Finally, the company wanted an "upsell" mechanism allowing individuals to acquire additional coverage for a nominal charge.

Together, the four challenges involved the Web application itself, the call center infrastructure and the company's central database, which ran on an IBM mainframe.

Based on the compelling returns, the fast time-to-market and the flexibility AptSoft was able to demonstrate in using CEP with its EDAC™ technology, the company gave AptSoft the go-ahead to build a solution. David Cameron, AptSoft's vice president of product integration, says that once his team got the go-ahead, it took just two weeks to complete development. Within a week of going live, the system had already produced dramatic results. Indeed, in just one of the four functional areas—quotes in which the consumer failed to provide a vehicle identification number—the system delivered business from 2,000 new customers.

IT: Half-Full?

Outsourcing and packaged solutions have hollowed out IT. Yet CIOs still have the opportunity to create competitive advantage—by differentiating customer-facing processes.



At a recent *CIO* magazine conference, an attendee asked me, “What’s left for IT?” In his half-empty, zero-sum world, all he could see—after outsourcing and packaged solutions had taken their toll—was the anemic “brokering” role often hypothesized for CIOs.

His perspective is consistent with that of executives who have decided they are running a business in decline. In the effort to pump up short-term results, they cut budgets and headcount. The best people escape; product quality and service decline; customers defect; the financial situation worsens; and the negative cycle repeats and reinforces itself. By viewing IT as “half empty,” IT executives perversely work very hard to make their dire predictions come true.

Another part of the half-empty mind-set is to view the past through rose-colored glasses. Many CIOs long for the days when all the technology experts and gear resided under one roof, and they could approve projects and spend money without the bureaucratic hassle of executive oversight.

It’s time for a reality check: There were no halcyon days of IT. Since its birth some 30 years ago, our relatively young profession has been struggling to grow up. IT is just starting to reach voting age in those companies where it has demonstrated that value, quality, efficiency and innovation are not mutually exclusive. For less mature IT organizations, there are constraints and consequences: Struggling CIOs are placed in the equivalent of juvenile hall, as evidenced by the increase in the number of CIOs reporting to their CFOs.

Yet a bright future is ahead for those half-full IT executives who understand what’s important and how to leverage the world around them. Every organization is faced with the challenge of

WEIGHING THE REAL COSTS OF LINUX AND WINDOWS? WEIGH THE INTELLECTUAL PROPERTY RISKS, TOO.

"To date, IBM, HP, Novell, Red Hat, and other Linux vendors offer only limited indemnification against intellectual property legal claims with exceedingly low liability caps—or no protection against third-party legal claims at all—leaving companies with the risk of high cost litigation."

*—Laura DiDio
Senior Analyst, The Yankee Group*

When evaluating Linux and Windows®, the Yankee Group, a global research and consulting firm, recommends that you assess your company's exposure to the cost of intellectual property disputes. That's because companies can be sued for using software that infringes intellectual property owned by third parties. Microsoft offers a strong indemnity that helps protect users of its flagship products from legal costs associated with intellectual property disputes. In comparison, leading Linux vendors offer limited or no indemnity. For details about Microsoft's indemnity, visit microsoft.com/indemnification

To see a video interview with Yankee Group Senior Analyst Laura DiDio and for other third-party findings, visit microsoft.com/getthefacts



differentiating capabilities while lowering the costs of two distinct types of processes: customer-facing and non-customer-facing (my source for this model is a white paper by Booz Allen Hamilton, "A New Take on Business Process Redesign").

Customer-facing processes include everything needed to develop and sell products and services: Understanding markets and customers; designing products and services; and marketing, selling and managing customer relationships. The customer-facing processes provide the key source for competitive advantage for internal IT organizations versus external vendors. Applying tailored approaches is fundamental to IT's long-term viability and success.

IT organizations typically do not realize a competitive advantage from most of the non-customer-facing processes, which include fulfilling demand for products and services; monitoring performance; and managing the financial, technical and human resources. Whereas the enterprise will pay a cost premium for custom-tailored customer-facing processes, it wants commodity prices for the non-customer-facing processes. To the extent that CIOs want to keep non-customer-facing processes largely in-house, they must be able to optimize internal processes to keep them competitive in cost and service with external providers.

Your emphasis as a CIO should be on creating relationships with your customers so that you understand their business, their challenges, their data and processes. You should be defining and delivering solutions based on an underlying unified infrastructure platform that supports the unique aspects of the enterprise's customer-facing processes at the lowest possible cost.

Outsourcing and packages are not the issue. If, in the process of delivering against your customer-facing processes, you decide you need to outsource some or all of your non-customer-facing processes, so be it. For many companies, outsourcing is a viable solution to address the challenges of small-scale, head-count constraints and legacy IT capabilities. Likewise, packaged solutions make sense if they allow your organization to operate its non-customer-facing activities in a cost-efficient manner.

Rather than asking "What's left?" CIOs should be considering how they can lead the customization and tailoring of IT's customer-facing capabilities, while at the same time simplifying and standardizing activities in which IT gains no competitive advantage. According to Booz Allen Hamilton, "internal service providers need to define their core processes from the customer back and redesign them using measurable business value as the metric."

As the IT profession grows up to address this very important challenge, you can emulate those CIOs who are mature enough

to see the many opportunities for IT as a cup that is half full rather than half empty. **CIO**

Susan Cramm is founder and president of Valuedance, an executive coaching firm in San Clemente, Calif. You can e-mail feedback to susan@valuedance.com.



PHOTO BY ASA MATHAT

Reader Q&A

Q: There never were any halcyon days for IT, but in my company, the situation has definitely gotten worse. Our CFO is driving the outsourcing move. He is not interested in cost savings down the road. He sees the bottom line on the contracts, and that's his metric for which outsourcer to go with. I report to this guy. How can I make the case that some of the things he's letting go of are customer-facing processes?

A: CIOs have too often played defense rather than offense when it comes to outsourcing. Consider a case study of two CIOs, one a predecessor to the other. The former fought the outsourcing move initiated by the powers that be. The current CIO instead volunteered to work on the outsourcing effort. He started by putting together an amazing strategy pitch that revealed the unique demands of the business, all the existing and planned internal activities that were driving value, and what would be traded off with a move to outsourcing. His coup de grace was getting the senior group to articulate the outcomes they expected from outsourcing and committing to deliver those results. If you want outsourcing to go your way rather than theirs, adopt it and love it to death.

Q: How should CIOs go about determining which processes are customer-facing? I think it's going to vary from company to company. The help desk is the first thing you think of when outsourcing, but I know of companies that keep that in-house because it's their number-one customer-facing process.

A: It is preferable to source everything internally *as long as* the IT organization can do three things: 1. hire the best and brightest; 2. leverage economies of scale; and 3. predict capacity needs. CIOs who don't live in that rarified air must make hard

choices about how to use the outside world to deliver customized solutions, access the best technical skills, operate cost-effectively,

Have a Leadership Question?

For more reader questions and answers from Susan Cramm, go online to www.cio.com/leadership/executive_coach.html.

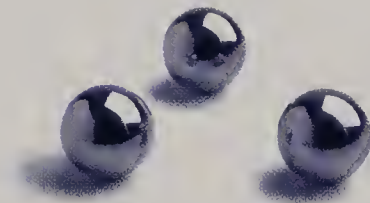
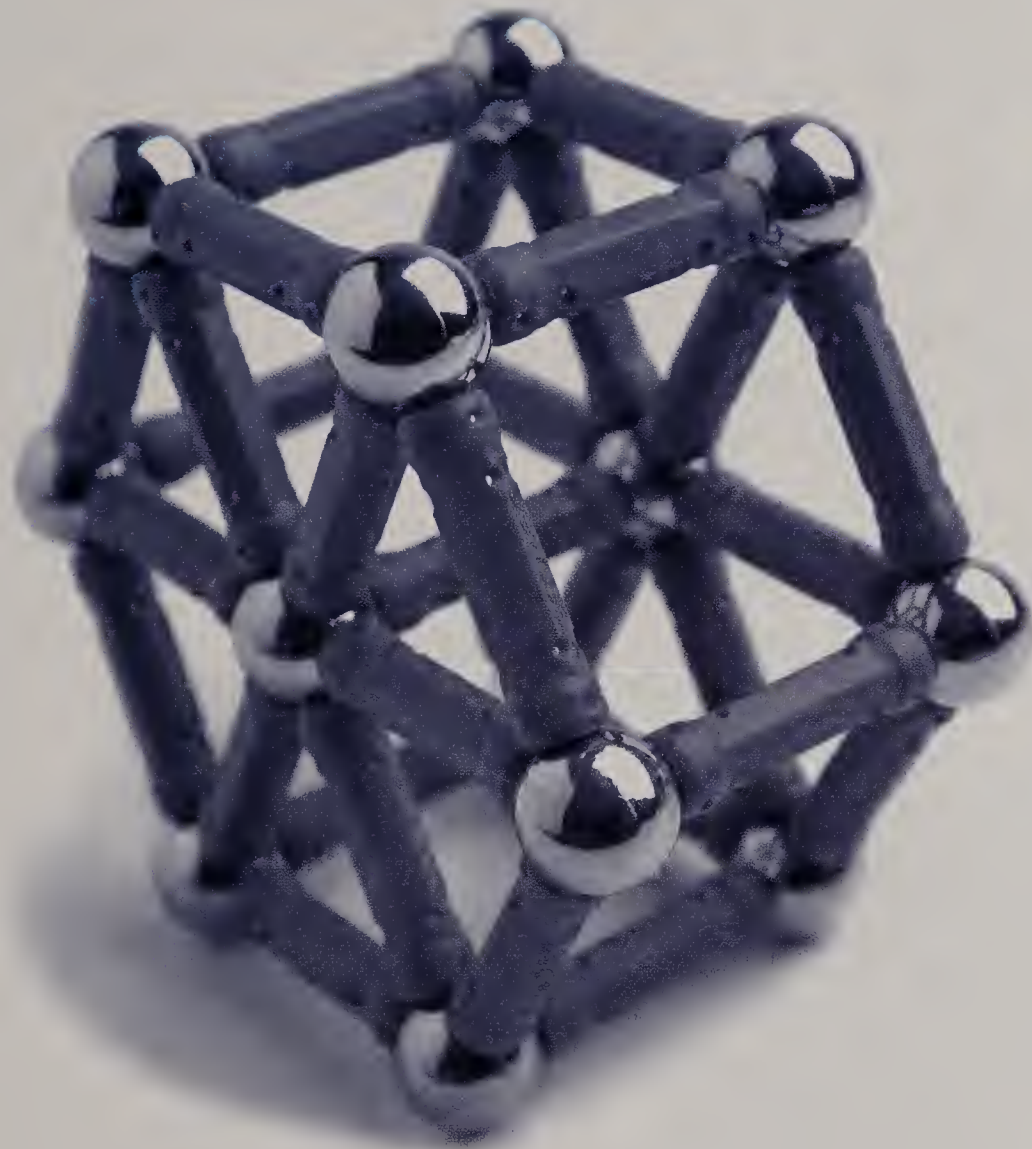
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and deal with changing business needs and IT demand.

IT professionals who interact directly with the business partners should be considered customer-facing since they create important impressions. Unfortunately, given the three challenges I listed, it's almost impossible to source all of these people internally. Some type of quasi-outsourcing solution is usually necessary. For example, in my restaurant days, my 24/7 help desk was too large to staff internally. (I could not hire the best because I couldn't provide all of them with career paths.) So I worked out a deal with a consultancy to give me their new college hires for 18 months, and I filled all supervisory and leadership roles with my permanent employees.

—S.C.

Managing some of the parts or the sum of the parts?



holistic: //
(whole-is-tic)
the importance of
the whole and
interdependence
of its parts.

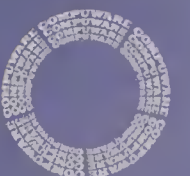
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CIO, How Does Your Garden Grow?

CIOs who have been asked to do more with less have been asking their staffs to do a lot more. They came through for you; now what are you going to do for them?

BY MEGAN SANTOSUS



Outourcing. Layoffs. Budget cuts. Ho-hum projects. If that sounds like a description of your IT department, chances are you have a morale problem. And you're not alone. "CIOs have to recognize that IT worker morale is at its lowest in decades," says Paul Glen, author of *Leading Geeks: How to Manage and Lead the People Who Deliver Technology*.

With low morale as ubiquitous and insidious as spam, recognizing that the problem exists is the first, necessary step toward correcting it. As Glen points out, when the going gets tough, far too many executives tend to hide in their offices, crossing their fingers and hoping that any problem related to soft and squishy issues such as their employees' "feelings" will somehow fix itself—maybe when the economy improves; maybe when the snows melt. Aiding and abetting those executives in dodging the problem has been a dismal job market that has in effect prevented those disaffected employees from departing for greener fields. Of late, all the IT fields they see around them have been uniformly brown. So, with employees unhappily stuck, it's been relatively easy for CIOs to glumly contemplate their own navels and ignore morale issues because they haven't translated into turnover, or anything else tangible.

Well, it's time to lift up your head, fling open those office doors and take a look around. The job market is about to improve. Eleven percent of CIOs plan to hire IT staff this year, according to the Robert Half Technology Report. While a modest gain, that represents a 6 percent improvement over last year's hiring projections. (See "IT Hiring Perks Up," Page 19.)

ILLUSTRATION BY ALEX NABAUM

A man in a dark suit and tie is shown in profile, looking out of a window at night. The window shows a blurred cityscape with lights. The overall mood is professional and secure.

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Inspire the Next

If the fields around yours start to green up, doing nothing about the morale crisis will damage your IT department on two fronts. Employees with in-demand skills will flock to the exits, and few prospects will be knocking down your doors to replace them because poor morale is like poison: It often leaves a residue that people can smell.

Improving morale is also an issue that goes beyond mere body counts and retention statistics. The charge to do more with less that the business has laid on IT these past few years has placed a moral obligation on the shoulders of CIOs who have asked their staffs to carry the load. Making sure that the (extra) time they spend at work is productive and, yes, happy, is simply the right thing to do. Raising morale, in other words, is a moral imperative.

Tend to Your Garden

Where to start? First admit that you're operating within limits. Instead of concentrating on individuals, says Glen, CIOs need to focus on creating an environment where motivation can flourish. To borrow an analogy from gardening, think of employee morale in terms of improving the soil rather than fertilizing individual plants.

CIOs can start creating that good, friable soil by coming out of hiding and finding out what ails their staff.

While there's no cookie-cutter approach to plumbing the depths of your IT staff's despair, certain practices work better than others. For example, employee surveys are a standard method of gleaning employee feelings, but Glen cautions they may be of limited utility. "Surveys give you some information about precise questions, but the answers can be misleading," he says. Employees may fear repercussions if they answer truthfully, and some pressing issues (such as hiring outsiders for all the new, cool projects) won't be uncovered at all if there aren't specific questions designed to ferret them out.

The best approach, says Glen, is simple. It's called listening. Sure, everyone knows that listening to employees, customers and family members is a good thing, yet it's a practice that

gets short shrift because it requires everyone's most precious commodity these days: time. To tune in to their employees, CIOs need to listen to both their staff and to trusted advisers who have the gumption to tell CIOs the truth about what's going on in the department, whether it's good, bad or ugly. In essence, says Glen, CIOs need to work harder at developing their own internal network of people who can serve as the CIO's eyes and ears. While there's a danger that such folks may be

CIOs who think they can improve any employee's personal outlook by clapping him on the back, giving him a high-five, a motivational speech or even slipping a little extra something into his pay envelope are misguided.

viewed as informers, CIOs can quell those fears if they focus on the big picture and don't act on any petty information that comes their way.

CIOs should also attempt to forge relationships with IT workers at every level. "Everyone hears what's going on around the water cooler except the person in the corner office," Glen says. For that reason, CIOs have to make a concerted and sustained effort to know people throughout the IT ranks. CIOs can do something formal, like taking a randomly selected group of employees to lunch once a month and asking them questions, or something spontaneous like walking around and inquiring about current projects. Ideally, says Glen, CIOs should do both.

What About Your Morale?

By listening to the concerns of the IT staff, CIOs send a strong signal to their employees that they care about them. Another strategy for sending this message is to help people put what they do in a larger context. Let's face it: For many IT workers slogging away on tactical or maintenance kinds of projects, who haven't seen a promotion since 1999 and wouldn't recognize a pay raise if it slapped them in the face, work itself may not be terribly inspiring. "A leader's job in creating an environment in which motivation thrives involves helping employees make sense of the work they do and the contribution they make to the organization," Glen says. Sure, debugging that database is a tad repetitive, but a well-oiled application saved the company \$125,000 last quarter and enabled customers to spend less time on the help line. That's the kind of context that can transform drudgery into purpose. Right now, most CIOs don't provide their employees with enough of it.

CIOs themselves frequently suffer from low morale. But it's your job not to let your morale affect the morale of your employees. And by creating a better environment for the people who work for you, you may find that your own environment—and your morale—will improve as well. **CIO**

Senior Editor Megan Santosus's morale is steadily improving. She can be reached at santosus@cio.com.



PHOTO BY LESLIE FEAGLEY

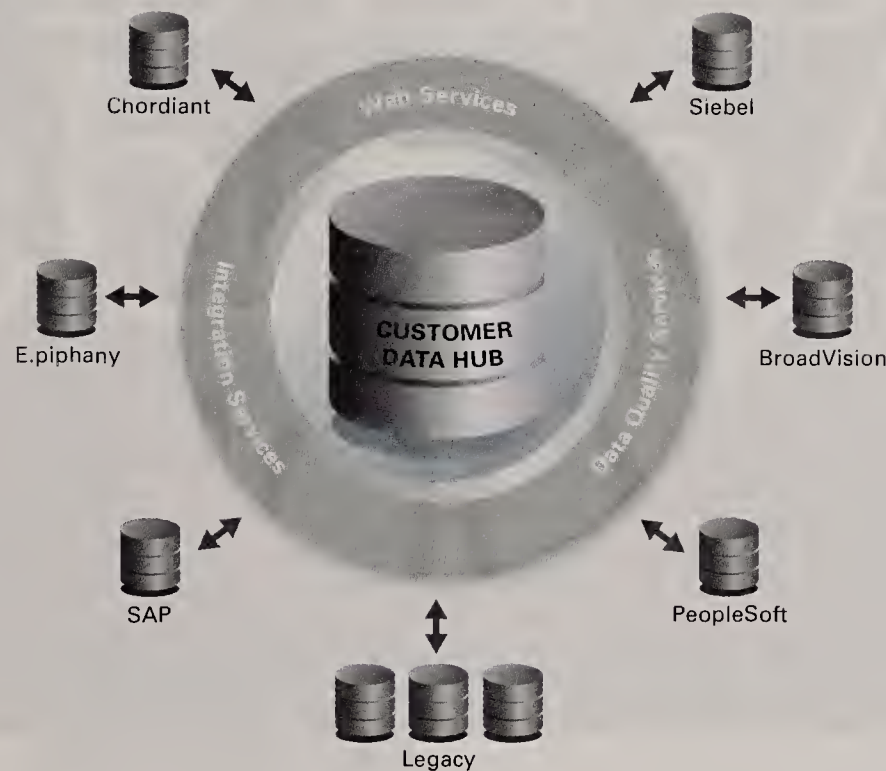
Share Your Opinion

That large sucking sound you're starting to hear is the competition raiding your staff. With employees unhappily stuck, it's been relatively easy for CIOs to ignore morale issues. But the job market is about to improve—will your staff stay with you when it does? How have you helped lift morale and keep your best and brightest? Share what's worked for you in the **ADD A COMMENT** box at the end of this article online.

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Introducing the

CIO

Leadership

Agenda

2005

Your Strategic Imperatives
for High-Impact IT

What will it take for CIOs to succeed in 2005?

What it takes every year: leadership. But CIOs must pick their battles and align their leadership to confront the key forces they face today: continued budget pressure, growing business demand for innovation and competitive differentiation, and increasing outside competition for the delivery of IT services. Drawing on continuous research with hundreds of IT executives and other business leaders and experts, *CIO's* editors have identified the five must-dos that make up the successful CIO's new leadership agenda. CIOs who marshal their efforts behind these imperatives will get the most value from IT, help their enterprises compete more successfully and elevate the strategic importance of IT.

CIO will address each of these leadership priorities repeatedly during 2005, not just within our pages but through the most robust multimedia content portfolio we've ever assembled for a single topic (see box). On the following pages, the inaugural Leadership Agenda article, "Flex Time," answers what is perhaps the biggest question for CIOs in 2005: How can you drive growth and innovation and simultaneously cut costs? Read on to begin fulfilling your leadership agenda for high-impact IT.

Edward Prewitt,
CIO Leadership and
Management Editor

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THE FIVE LEADERSHIP IMPERATIVES FOR 2005

1. Drive Innovation and Growth While Managing Costs

These apparently conflicting demands must be reconciled and managed for companies to push forward with their business goals in 2005.

2. Prove the Strategic Value of IT

The strategic business contributions of IT must be identified, tracked and, most important, articulated effectively to all stakeholders.

3. Run IT Efficiently and Effectively

The IT function must be run like a business—with fiscal discipline and accountability, a responsive customer service mind-set and a commitment to flawless operations.

4. Develop the Next Generation of IT Leaders

The CIO can't go it alone; senior IT people must learn to think like business leaders, build productive relationships with customers and partners, and prepare for the mantle of the CIO.

5. Manage CXO Expectations

Unknown, unclear and unrealistic expectations of IT on the part of the business cannot stand. CIOs must shape—and align with—expectations of the executive committee.

fixed/flexible

FLEX / TIME

Your biggest challenge in 2005
is to grow while shrinking.
It's not impossible.

Part of the **CIO Leadership Agenda** series

BY SUSANNAH PATTON

FOR Catherine Brune, senior vice president and CTO at insurance giant Allstate, business volatility is a way of life. So when four hurricanes slammed the state of Florida within two months last year, Brune was prepared. A catastrophe claim center with several hundred desks was up and running in Orlando in less than 72 hours, and wireless-enabled satellite vans were dispatched to meet Allstate customers as each storm hit shore. As other hurricanes tore through the center of the state, that claim center had to be evacuated and then moved back in a period of days. IT leaders quickly came up with hundreds of thousands of dollars to set up a temporary center, move desktops and assure connectivity. "Sudden disaster demands flexibility," says Brune. "To be responsive, we need

Reader ROI

- How to reconcile cost constraints with the need to innovate
- How CIOs have shifted IT funds from fixed to flexible expenditures
- How to prevent CFOs from reallocating all of IT's freed-up funds

PHOTO BY JEFF SCIORTINO



Catherine Brune / Senior VP and CTO, Allstate

50%
FIXED / **50%**
FLEXIBLE

To improve IT's agility, Brune has made it her mission to expand the flexible portion of her \$1.2B IT budget, from 25% in 2002 to 50% today (and more to come). "You run a better business when you have more of your dollars going toward flexible or strategic initiatives," she says.

to move quickly and invest in new technologies. And we need an IT budget that allows us to change directions on a dime.”

To help Allstate respond effectively to natural disasters and other unpredictable changes in the business, Brune has pushed to expand the portion of the company’s \$1.2 billion IT budget that is flexible or discretionary. IT flexibility allows her to respond more easily to business units’ needs and invest in technologies they ask for. To improve IT’s agility, Brune, who started her career at Allstate 28 years ago in operations, has made it her mission to cut fixed costs and reallocate at least some of those savings to strategic projects. When she took over as CTO two years ago, fixed costs, which she describes as anything that “keeps the lights on and requires people and monitoring,” made up 75 percent of the total IT budget. Today, that amount has fallen to 50 percent and could drop even further as Brune continues to find redundant systems and trim fixed costs. The added budget flexibility allows her to invest in new technologies and respond more easily to changing business needs.

IT executives today are caught between the opposing forces of cost constraints and pressure to innovate. One key to reconciling those forces is to shift the ratio between

fixed and flexible IT costs. CIOs in many industries are trimming fixed expenses, such as personnel costs, mainframe expenses, hardware and software maintenance, and equipment leases, to free up more money for strategic projects and investments in new technologies. In doing so, they are eschewing the easy route; an IT budget filled with fixed costs means the organization will be more predictable and easier to run. But they are also benefiting from freedom from long-term leases and suffocating maintenance costs as they invest in technologies that can spur growth and competitive advantage. “If you’re not spending a third of your IT budget in some discretionary way, you are missing the strategic opportunities to leverage IT,” says Steve Andriole, senior consultant at Cutter Consortium’s business-IT strategies practice.

Changing your cost structure to create greater flexibility is the best way to keep IT front and center in business strategy while adhering to the imperative of lower costs. Just ask Rudi Huber, CIO and vice president for global business services of aluminum giant Alcoa, who has cut overall IT costs by 30 percent in the past few years but has also managed to move forward with a multiyear, multimillion-dollar ERP implementation that will replace aging financial, procurement, commercial and manufacturing systems. During this period of belt-tightening at Alcoa, Huber has gone from a 70-30 ratio of fixed to variable costs to about a 50-50 level. “With more flexibility we have been able to make the investments we need to remain competitive,” Huber says.

But with the rewards also come greater risks. Savings from reduced fixed costs might be gobbled up by the CFO to pad the bottom line, rather than being kept in the IT budget in readiness for new investments or unexpected opportunities or needs. In addition, CIOs with larger amounts of variable spending face increased pressure to deliver business value on new and untried projects. “The biggest risk is that you won’t deliver on a project,” Brune says. “You run a better business

when you have more of your dollars going toward flexible or strategic initiatives, but it’s a lot harder to do.”

HOW TO FIND YOUR BALANCE

There is no optimal level for fixed versus flexible costs across all industries. A survey of our 2004 CIO 100 honorees, recognized for their agility across many aspects of IT and the enterprise (for more of this survey, see the Agile 100 issue at www.cio.com/printlinks), revealed they averaged a relatively high level—33 percent—of flexible costs in their total IT budgets. But the maximum flexible portion can vary widely, from a dramatic 90 percent in a company that had to downsize quickly and radically, to 20 percent at a university where the culture demands slower and more measured change in IT investments.

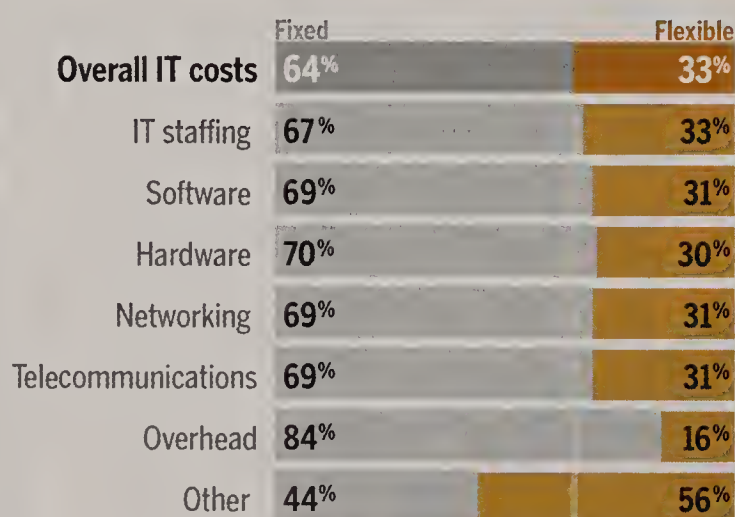
To determine the best mix of fixed and variable costs in an IT budget, CIOs should begin by assessing their companies’ economic models, says CD Hobbs, president and COO at Meta Group. “You can’t simply opt for a high variable cost posture and say it’s good. Variable for the sake of variable can be very dangerous,” he says. For example, companies in industries such as airlines, oil and financial services, where demand for IT services is volatile, should have higher variable IT costs than companies that foresee stable short-run markets.

Hobbs also warns that CIOs in search of flexibility should beware of more expensive short-term contracts. His analogy: “If you think interest rates are going to rise, you lock your mortgage in for 30 years,” he says. The new trend in on-demand subscription types of software contracts offers a prime example of short-term risk. The on-demand model is appealing because CIOs can buy services in small amounts as demand scales upward. However, if demand exceeds the forecast, CIOs might face a surfeit of expensive short-term contracts. “In an expanding market, there might be more tears than cheers,” Hobbs says.

With these cautions in mind, CIOs looking to increase their variable spending need to work closely with their CEOs and business unit leaders to accurately balance IT resources with internal demand. “For the CIO to do a good job with this balance, he or she has to be an intimate player in the strat-

Cost Agility Benchmarks

Honorees of the 2004 CIO 100 Award, recognized for their agility, reported these fixed-versus-flexible cost ratios for these areas of their IT budget. (See our Aug. 15 issue or CIO.com for more on these companies.)



Note: Some percentages do not add to 100% due to incomplete answers.

Small, Fast and Flexible

Budget flexibility can help CIOs maintain IT service levels in hard times



Chris France / CIO, Little Diversified Architectural Consulting

10%
FIXED / **90%**
FLEXIBLE

After deep, painful cost cuts in 2001, France has sought to eliminate fixed costs, lowering the proportion from 40% in '01 to 10% today. "When we were faced with a drastic drop in our revenue, we found out how inflexible our infrastructure and contracts were," he says.

His goal: zero fixed costs by the middle of this year.

FOR CIOs AT SMALL AND MIDSIZE BUSINESSES, boosting cost flexibility can be much more straightforward than for their counterparts at large companies. Greg Meyer, CTO at startup iJet Travel Risk Management, which brought in an estimated \$6.5 million in revenue in 2004, says he has a far easier time getting consensus from colleagues to change his spending plans than he did when he was CIO of a larger IT services company. At large companies, he says, the long-term IT projects that cost tens of millions of dollars gain a life of their own; it's hard to stop those projects, even if they're clearly headed for failure. In a smaller organization, everyone at the senior level has a relationship with the board, which ultimately controls expenditures. "You can turn on a dime a lot more easily if everyone in the organization is helping you turn," Meyer says.

Chris France, CIO at Little Diversified Architectural Consulting, which reports annual revenue of \$40 million for 2003, credits his 90 percent flexible posture to the close contact he maintains with other top executives and the reputation he has built for being tough on IT spending. France admits that his case is extreme and probably wouldn't work for everyone, however. For one thing, paying cash and avoiding financing for hardware prevents him from investing that money and could have negative tax implications for larger companies.

But his experience with downsizing has taught him some helpful lessons that he says could apply to larger IT shops. Radically increasing his cost flexibility allowed him to maintain IT services in drastic times. "For any company, it can be helpful to imagine what you would do if your revenue was cut in half," France says. "I was taken by surprise by the sudden volatility in this industry. We are all vulnerable to some extent." —S.P.

egy formation and modification process," Hobbs says.

At Hewlett-Packard, top IT executives collaborated with business units to reduce fixed costs and create flexibility after the merger with Compaq in May 2002. Prior to the merger, HP had 23 percent of its IT dollars earmarked for innovation, with the rest of the budget tied up in maintaining 25,000 servers, 7,000 applications and 300 data centers. "We were overly complicated, and our fixed costs were very large," says John Buda, HP's vice president for strategy and planning for global operations and IT. Buda and his boss, CIO-to-be Gilles Bouchard, appointed a select group of IT staffers to handle the complex and politically sensitive process of deciding which resources were redundant and unnecessary. For example, the group worked closely with the human resources department to ascertain that the multiple systems it was using could be reduced to a single version of PeopleSoft and a single database. Ultimately, servers across the merged company were cut to 19,000, applications to 4,000 and data centers to 85, with substantial further reductions expected. HP's cost flexibility has risen to 34 percent of the \$2.8 billion IT budget, with a goal of 50 percent, Buda says.

Stephen Fugale, CIO at Villanova University, focused on the organization's appetite for innovation to make the case for greater cost flexibility. When he arrived at the university three years ago, close to 90 percent of the \$12.7 million IT budget was locked into fixed costs such as hardware maintenance, servers, software licenses and overall infrastructure. Universities, he says, often have a high level of fixed costs because standardization has lagged behind the corporate world. He analyzed his IT budget, which he says appeared to have been put together in the past without much planning, and broke it down into fixed and variable areas to see where he could find savings. Fugale huddled with university administrators to deter-

mine where fixed costs could be reduced and where there was a need for strategically oriented projects. He also compared his ratio to other universities'.

Over the past three years, he has been able to free up a small amount of those fixed costs by standardizing hardware and software platforms and finding some economies of scale in merging student and faculty hardware and support services. Fugale says 20 percent of his budget is now in the variable category, which has allowed him to move forward with an investment in wireless and mobile computing technology. His ceiling for cost flexibility is probably between 20 percent and 25 percent, at least for the time being, he says; a higher fraction of variable costs would be out of line with the appetite for IT innovation at most universities.

Cutter Consortium's Andriole cites Villanova as a good example of how a CIO can free up money for strategic investments after careful examination of the organization's budget and culture—even if that culture won't allow for a radical transformation. According to Andriole, CIOs seeking to change their fixed-variable cost ratio should first benchmark their company and indus-

try to see where they stand in comparison. "If all of your competitors are at the 80-20 level and you are 90-10, you need to figure out how to get some more flexibility," he says.

Looking ahead, Fugale knows it will be a struggle to keep investing in new technologies with no expected increase in his IT budget during the next five years. Nonetheless, to plan for new investments, such as replacement of an aging phone system, Fugale is looking for ways to cut fixed costs further and to generate revenue through his technology. At

When You Need to Get Flexible

Three signs that you should increase your variable spending

1 YOUR INDUSTRY IS UNDERGOING RAPID OR DRAMATIC CHANGE. If you're in the airline business, financial services or any other industry facing transformation, flexibility is crucial.

2 YOUR FIXED COSTS ARE CREEPING HIGHER EVERY YEAR. The more complex your systems become, the larger your fixed costs and the harder it becomes to react to business changes. It's time to excise old systems and trim maintenance costs.

3 YOU'RE FALLING BEHIND YOUR PEERS IN INNOVATION. Even in industries that encourage stability and high fixed costs, such as utilities and universities, you need to keep abreast of newer technologies that will help keep your organization competitive in the long run.

—S.P.

the moment, he is reselling videoconference space, computer equipment and phone service to students, bringing in \$350,000 in revenue in 2004 that can be earmarked for strategic investment. Fugale's strategy to hold onto this "found money" for strategically aligned academic IT projects rather than seeing it reallocated to other departments is straightforward: Keep in close touch with those who hold the purse strings and let them know he has clear plans for the extra money.

FLEXIBILITY IN AN AGE OF COST-CUTTING

It's no longer news when CIOs have to slash fixed costs. For many IT executives, annual budget cuts have become the norm. In these instances, simply taking from discretionary funds isn't feasible; that well runs dry unless replenished. The trick is to create budget flexibility while lowering overall IT costs.

As the aluminum market has contracted in recent years, Alcoa's Huber has had to cut 30 percent from global spending. In doing so, Huber managed to shift from a 70-30 fixed-to-variable ratio to about a 50-50 level. His primary means of doing so was consolidating 124 data centers around the world into four principal regional centers, cutting the number of applications in use from 3,000 to 2,000 (with more expected) and standardiz-

CIO Leadership Agenda 2005

This story targets the Leadership Agenda topic **"DRIVING INNOVATION AND GROWTH WHILE MANAGING COSTS."** You'll find more material on this and the four other topics for 2005 on the new, dedicated website **AGENDA.CIO.COM**. Look there throughout the year for articles, tools and webcasts on driving innovation, proving IT value, running IT efficiently, developing leaders and managing expectations.

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ing the company's desktop environment. "Complexity drives cost," Huber says. He is constantly on the lookout for ways to keep his fixed costs from creeping back up. For example, although he recently paid for Oracle database software licenses, he has decided he can do without some of the maintenance contracts on legacy applications that will be replaced through the ERP implementation. "The trick is to squeeze something out of the operations side so that you can invest in your technical environment and provide value to the business," he says.

In many companies, employee salaries and benefits are the number-one fixed budget item. Outsourcing would seem to be an obvious method of increasing cost flexibility. Greg Meyer CTO of iJet Travel Risk Management, employs 12 internal staff developers and a team of 18 in India. But Meyer has found that outsourcing doesn't save him money; he ultimately spends as much on an overseas developer as an internal staffer, he says. The benefit of outsourcing is in the agility it provides his department. "It's much easier to drop and add a resource in India than to bring someone in here," he says.

Other CIOs avoid outsourcing on the grounds of flexibility, however. Ever since he had to undergo an extreme case of cost-cutting, Chris France, CIO of Little Diversified Architectural Consulting, has been averse to most kinds of contracts, including outsourcing deals. When major clients put the brakes on after 9/11, the company, which builds large retail centers and public buildings such as schools and jails, eliminated 320 people from its payroll of 600 and set out to shave the rest of its budget to the bare bones. A heavy proportion of fixed costs made cost-cutting very difficult initially. "When we were faced with a drastic drop in our revenue, we found out how inflexible our infrastructure and contracts were," says France. He has eliminated all outsourcing contracts and is down to nine full-time IT employees. "The key for us is to avoid as many contracts and leases as possible," he says.

France also sought to eliminate fixed costs while boosting flexibility by buying out long-term software contracts, avoiding long-term agreements and changing how the company buys hardware. He now boasts an almost unheard of 10-90 ratio of fixed to variable IT



Dennis Klinger/VP and CIO, Florida Power & Light

50%
FIXED / **50%**
FLEXIBLE

Klinger cut fixed IT costs from around 65% to about 50% today, and then held onto the funds by marketing the benefits of a new IT project. "We showed them we were cutting IT costs in other areas," he says.

costs. To maintain such a high degree of flexibility, France has learned to stagger leases, negotiate breakable lease terms and pay cash for as much as he can. Virtually all of his software is purchased by subscription, and he has let maintenance lapse on all of the seats of his design software that are not being used. The 10 percent of his IT spending that is fixed is made up almost entirely of specialized large format printers used by architects for design work—and he plans to buy the equipment when the lease expires soon, thereby reducing his fixed costs to zero.

France's cost strategy reflects a close working relationship with the company's CFO, Jim McGarry, who sits directly behind him in the office's open seating plan. McGarry says that when Little Diversified started to downsize, flexibility became the mantra for the

company as a whole. "We project and react and try to control expenses as much as possible in accordance with revenue forecast," McGarry says. "We place trust and responsibility with Chris [France]. He knows that every spending decision must pass the business case test."

PROTECT YOUR HARD-EARNED SAVINGS

In many cases, however, the CIO-CFO relationship isn't so harmonious. Funds that IT has worked hard to free up can be low-hanging fruit for a hungry CFO. CIOs have to make a case for retaining some of those savings to meet business demand for innovative investments—or just to set aside for a rainy day fund. Dennis Klinger, vice president and CIO at utility company Florida Power &

Light, employed a marketing approach to redirect a large portion of fixed costs to a new project, despite operating in an industry known for its lack of budget flexibility.

First, he lowered fixed costs to about 50 percent of the utility's \$150 million in IT spending from the previous 60 to 70 percent by cutting software and hardware maintenance and support costs, consolidating server and storage facilities, and reducing communications costs. Then he convinced business executives to move ahead with a five-year, \$100 million project dubbed Tech 21 that will transform the way the company manages the business of distributing electricity. The project, which is in its final stages, includes mul-

tion of her alignment efforts. "A few years ago he was critical. His unit didn't have trust or respect for us," she says. "He looked at me across the table and said, 'For the first time, I don't have anyone working for me right now who says they can't get something done because of technology.'"

In fact, when it comes to fixed versus flexible costs, alignment is *the* issue, says Cutter's Andriole. If business leaders see IT as primarily a cost center, "IT spending will be 95 to 100 percent fixed," he says. Even in companies where the CIO and CFO get along, however, they won't always see eye-to-eye. "It happens all the time that money is taken away from the CIO," says Meyer of iJet

Klinger says, was transparency in the IT budget, with clear outlines of what is fixed and where choices can be made. "You have to be prepared to talk about the business value of your investment. You have to be ready to talk about the trade-offs," he says. It can be a difficult conversation, "but the reward is greater credibility."

Meyer of iJet Travel Risk Management agrees that IT leaders need to clearly break down their costs for business leaders—especially when they are faced with volatility. Because iJet provides intelligence and help for companies with employees in far-flung and sometimes dangerous locales, the business needs can change rapidly. With 60 percent flexible IT costs, Meyer is poised to respond.

But with flexibility comes a trade-off in planning. "The more variable my spending streams are, the harder it is for me to articulate a long-term vision," Meyer says. For example, two years ago he came up with a plan to invest in software that would create itineraries for business travelers in Europe. Soon after, however, clients began focusing on rebuilding projects in Iraq. So Meyer shifted some of the money planned for the software investment to GPS and other technologies that help companies track employees in hazardous and hard-to-reach areas. By carefully presenting to his board the logic behind the shifts in strategy and spending, Meyer deflected criticism that he hadn't followed through on long-term plans. "What you lose in long-term vision, you gain in flexibility," he says.

To maintain cost flexibility over the long run, CIOs have to constantly reevaluate their spending strategies, says Allstate's Brune. She recommends setting up a series of checkpoints to make sure that projects are providing value and to reevaluate projects that aren't successful from the get-go. It's a time-consuming process, but without it CIOs are vulnerable to change. "You have to be willing to ask if the strategy you had 12 months ago is the same one you need going forward," Brune says. "You have to be expense-conscious and flexible, and you have to stay balanced at all times." **CIO**

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Five Steps to Flexibility

How CIOs can free up funds (and keep them for IT use)

1. **Consolidate** vendors and systems.
2. **Buy out** long-term contracts and consider short-term agreements.
3. **Benchmark** their cost position against competitors'.
4. **Partner** with business unit leaders to forecast their need for IT investments and make the case for reallocating fixed costs.
5. **Develop** choices and alternatives for reallocating IT budgets to keep them away from the CFO's ax.

—S.P.

multiple systems initiatives that have revamped software, introduced wireless and mobile computing, and resulted in widespread changes in business and IT processes. Klinger won support for Tech 21 from business units—and approval for more discretionary spending—by selling them on the project's business value and giving regular progress reports. "We showed them we were cutting IT costs in other areas," he says. "We presented it like a business option."

Allstate's Brune stays on the CFO's good side by keeping close to the business side. She attends strategy sessions with business unit presidents and works with an IT sponsor group made up of CIOs of individual business units. "You have to be Siamese twins with business partners," she says. "The CFO is not the issue"—business unit presidents are the ones who can make or break plans for a strategic IT investment. At a recent lunch with the head of Allstate's distribution division, Brune received valida-

Travel Risk Management. Meyer, who considers his CFO a friend, says he was heartbroken when that CFO recently shut down his million-dollar plan to extend the company's emerging technologies group. "I wanted to make that investment so badly I could taste it," Meyer says. In the end, though, he came to terms with the CFO's rationale, which was based on a two-to-three-year plan as opposed to his own five-to-10-year outlook. "I've known a lot of CFOs, and some of them are jerks," Meyer says. "But as CIO or CTO, we have to understand that most of [the CFOs] are concerned about the overall health of the company."

NO USE TRYING TO HIDE

It might be tempting to try to hide discretionary funds in budget footnotes, but CIOs seeking cost flexibility need to be up front with business-side colleagues about their choices. One of the keys to gaining support for his new initiatives at Florida Power & Light,

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The Cost of Compliance vs. the Cost of Non-Compliance

Some pundits say security on the way to becoming a fully-regulated industry, what with an increasing number of official directives from legislative bodies, regulatory agencies and industry consortia around the world. Toss in partially overlapping or

completely diverse requirements from different agencies and you're guaranteed that compliance will be that much more difficult—and very, very expensive. In this session, we look at the potential costs of compliance, weighed against the risks of non-compliance. What can CSOs do to understand the “dollars and sense” of it all, and to prioritize your organization's compliance list?

The Role of Government: One Step Forward, Two Steps Back?

The US government, particularly DHS, has had tremendous opportunities to advance the public good and protect the American economy by strengthening both cyber and physical security and by building more cooperative relationships with the private sector. But there's a perception that it has failed to seize those opportunities and to move forward. What should we realistically expect—and how do we make it happen?

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Senior management and boards of directors often still view security as an inconvenient cost of doing business. Many CSOs today have yet to report directly to the CEO or stand before their organizations' boards, and have a fair way to go before they're taken seriously as C-level executives. Each of our panelists brings a unique perspective to helping CSOs perfect the art of persuasion.

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SPEAKERS

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American Electric Power

Bob Bragdon, Publisher, CSO magazine

David Burrill, CSO,
British American Tobacco

Roger Cochetti, Group Director,
US Public Policy, CompTIA

Bob Hayes, CSO, CXO Media Inc./IDG &
Former CSO, Georgia-Pacific Corporation

Nuala Kelly, Chief Privacy Officer, DHS

David Kent, CSO, Genzyme Corporation

Lew McCreary, Editor in Chief,
CSO magazine

James McDonnell, Chief Security &
Information Officer, USEC and Former
Director, Protective Security Division
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Peter Metzger, Partner, Heidrick & Struggles

Bhavesh Patel, Vice President, Information
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Ira Winkler, Industry Guru and Author of
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AN INVITATION TO STEAL

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ABOUT THE GROWING POTENTIAL
FOR FRAUD WITH DIGITAL CHECKS.
BY ALLAN HOLMES**

Reader ROI

- :: Why automating your business processes actually increases the likelihood of fraud
- :: How the move toward processing bank checks digitally leaves online customers vulnerable
- :: What you can do to protect your business from theft by insiders and organized crime

PHOTO BY JEFFREY MCCULLOUGH



MARK TIZZARD (left), VP of strategic integration for Wachovia Bank, and BRIAN MCGINLEY, senior VP and director of loss management, planned carefully for the move to digitally processed checks.

Frank W. Abagnale has a message for CIOs who think automation will save loads of money and protect their companies from fraud. Abagnale, the muse for the movie *Catch Me If You Can*, is the notorious con man who kept the FBI at bay for decades while he embezzled millions of dollars out of unsuspecting individuals. His message: Automation—business processes run automatically without human intervention—could actually make fraud easier and cost more in the long run.

“What I did 40 years ago as a teenager is 2,000 times easier to do today,” Abagnale says now. “Every day, criminals are realizing that crime is getting easier than the day before because corporations are going digital.”

creates a higher risk of fraud and abuse. As banks make digital images of checks available to customers online, criminals can more easily gain access to the information they need to create counterfeit checks. All they have to do is obtain a customer’s user name and password.

Fraud is affecting not only the financial industry but other industries as well. Health care, transportation, utilities, retail, government, entertainment and others are all vulnerable. Indeed, any business that operates a network to process payroll, employee personnel information, contracting or financial reporting could be a victim of fraud. And if you don’t think it will happen to you, think again, warns Toby Bishop, president and CEO of the Association of Certified Fraud Examiners (ACFE). “This is only going to get worse,”

“Sometimes you roll out programs and see what happens,” Tizzard says. “But this is different. People need to be prepared.”

Denial Ain’t Just a River in Egypt

For the vast majority of CIOs interviewed for this article, preventing fraud is simply not a top priority. Nor is it something many are willing to talk about. About a dozen CIOs we contacted in the retail, investment and manufacturing sectors refused to talk to us about how they are defending themselves against fraud—if at all.

Of those who did talk to us, many have the mistaken perception that automation will reduce fraud. One CIO for an insurance company told us that when company executives agreed to deploy a new electronic



“CRIMINALS ARE REALIZING THAT CRIME IS GETTING EASIER BECAUSE CORPORATIONS ARE GOING DIGITAL.”

—FRANK ABAGNALE

Why trust a former fraudster, you might ask? Because he and other fraud experts can prevent you from being defrauded by criminals who attack corporate networks for information that they can harness to steal on a large scale. And indeed, Abagnale is among a growing army of consultants who are working with CIOs at some of the nation’s largest banks to fight what many believe will be a surge in check fraud, already at \$19 billion a year, as banks move from processing paper checks to transporting digital check images to other banks and customers.

The Check Clearing for the 21st Century Act (Check 21), a federal law that allows for the creation and processing of digital check images and substitute checks, is one of the more significant business process automation transformations in the private sector. It is expected to save the banking industry \$2 billion to \$3 billion a year in labor and transportation costs, which include flying 42 billion checks around the country every year. Yet Check 21 also

Bishop warns. “Pretty soon we will have war rooms with technologists working 24/7 fighting fraud.”

The bad news is that completely eliminating fraud from business is impossible, experts say. The good news is that CIOs can minimize the potential for losses by developing antifraud strategies in the initial design phase of an automation project, and continuing to make it a high priority throughout daily operations. But this requires a revolutionary shift in thinking and culture for many organizations. That’s because too many CIOs, including most of the executives we interviewed, don’t consider fraud prevention a high priority. They tend to be much more focused on the ROI of business automation and the improved service to customers rather than the vulnerabilities a new electronic process creates.

As IT automation becomes more critical to corporate revenue, an entirely new mind-set is necessary. Mark Tizzard, vice president of strategic integration for Wachovia Bank, admits as much.

process to handle claims, the business argument behind the system was not only to lower costs but to reduce the incidents of fraud as well. The executives had not considered the possibility that the system could create opportunities for new, more virulent means of fraud. “I really haven’t given it a whole lot of thought,” he says.

Many CIOs are also hampered by misperceptions about who commits fraud. For instance, while executives think that fraud is typically committed by outside criminals, research shows that about 85 percent of all fraud is perpetrated by employees. These inside fraudsters will account for an estimated \$660 billion in losses this year, up from \$600 billion in 2002, according to the ACFE. The typical employee who commits fraud has many years with the company, is an authorized user, is in a non-technical position, has no record of being a problem employee, uses legitimate computer commands to commit the fraud and does so mostly during business hours.

For all of these reasons, CIOs seem to be

seriously underestimating the potential for fraud with automation. According to a 2003 KPMG survey, 43 percent of IT executives believed fraud would decrease in the future. By comparison, only 7 percent believed fraud would increase. As a result, CIOs are under-equipped to deal with the problem. Only one-third of companies have a comprehensive fraud program in place, according to a recent survey by PricewaterhouseCoopers.

Yet at the same time, more than 80 percent of companies reported that attacks on their networks have increased, and one in five said a hacker has infiltrated their company's network, according to the Computer Security Institute. What's troubling about these statistics is that corporations are now automating processes directly linked to generating revenue and profits. In years past, CIOs focused on easier, less critical processes, such as electronic employee expense forms and giving employees the ability to sign up for vacation time online. Now, CIOs are automating the processes central to a business's operations. This promises to bring a higher rate of ROI, but also a higher risk of fraud and abuse. It's as if CIOs are playing a version of the arcade game whack-a-mole, only a more costly one. CIOs use automation like a hammer to smash fraud in one place, only to see it pop up unexpectedly in another place.

Automated systems, particularly when they are enterprisewide, are vulnerable for a number of reasons. First, they require significant changes in work processes and cultural shifts throughout the company. Employees are not used to the new processes, and therefore not attuned (nor trained) to see anomalies that indicate fraud. In addition, these new processes tend to be highly complex, which makes weak links in the system more difficult to identify. This could explain why some Russian hackers were successful at hacking into personal accounts at major U.S. banks and online payment services in the latter half of the 1990s, when that online business was relatively new.

"CIOs tend to underestimate the potential for fraud when they change business processes," ACFE's Bishop says. "They tend to fight yesterday's battles," designing defenses for schemes that they know about.

IT'S A TEAM EFFORT

TO SUCCEED IN FIGHTING FRAUD, CIOs MUST BRING TOGETHER BUSINESS DEPARTMENTS THAT TRADITIONALLY HAVE NOT COOPERATED WITH EACH OTHER

Like other companies, many banks fight fraud in a very decentralized fashion, with antifraud systems for each of their separate product offerings. The checking department, for instance, has an antifraud group to fight check fraud. The credit card department has an antifraud credit card system, as does the mortgage group. The group operating ATMs has yet another system, and the wire group has their own fraud detection system.

These silos must be eliminated if banks are really serious about stemming fraudulent attacks. Unless an antifraud system is scanning for anomalies across all of a customer's accounts—checking, brokerage, savings, ATM withdrawals, mortgage and credit cards—criminals will have an easy time hiding their tracks. By picking up unusual activity in several products within one customer's account, bank officials can connect the dots of a fraud attempt, making it easier to more quickly stop the attack. "Banks need a holistic view of the customer relationship," says Brian McGinley, senior vice president and director of loss management at Wachovia Bank.

To fight fraud across the enterprise, Gary Cawthorne, vice president and managing partner of the global banking practice at Unisys, which consults with banks on instituting Check 21, suggests creating a cross-organizational team composed of managers, marketing representatives, check processors, IT staff and others. The team should discuss what the existing paper-based business process is and what will change in each department when an electronic process is deployed. Such cross-departmental dialogues can lead to business process changes that improve fraud detection. "Maybe we do [check] scanning at 9 a.m. instead of 9 at night," Cawthorne says. That way, you have a 12-hour jump in spotting a fraudulent check.

To succeed with this approach, the CIO or security executive must bring together departments that traditionally have not cooperated—not out of spite, but because they rarely have been asked. Without cooperation and dialogue, companies will continue to experience big losses from fraud. "Automation in and of itself is not a problem," says Joseph Koletar, a principal in the investigative and dispute practice at Ernst & Young. "But done in a vacuum, it can have unintended consequences." —A.H.

Scamming Digital Checks

Take Check 21, for example. Banks invested in Check 21 for two reasons. First, it will save the industry an estimated \$2 billion a year in paper check processing costs. Second, bank CIOs and their executive colleagues believe the automation will cut into the \$20 billion

that banks lose to check fraud every year. Their reasoning is sound. If a criminal presents a fraudulent check, within hours the bank takes a digital image of the check and sends it to the issuing bank. Using software algorithms, the issuing bank looks at certain aspects of the check—such as the check number, the payee, handwriting and the dollar



WILTON DOLLOFF, executive VP of operations and technology for Huntington Bancshares, says the full impact of digital check processing will not be known for several years.

amount of the check—to quickly determine if the check is valid or not. Under the paper process, the issuing bank wouldn't receive the paper check for days, and the criminal would be long gone with the money.

But Check 21 also creates new opportunities to perpetrate fraud. Criminals can more easily steal information from customers' online bank accounts to create authentic-looking counterfeit checks. All they need is the customer's user name and password. Such information can be obtained through phishing

is obtained. "they really have the keys to the financial kingdom of the customer," says Ori Eisen, CEO and president of The 41st Parameter, an Internet, telephone and mail-order fraud prevention company.

Banks claim they will be able to stop payment on fraudulent checks faster because an issuing bank will receive the check image faster. But the speed with which checks will be processed also will reduce the time that a bank's fraud examiners have to identify a fraudulent check. Moreover, most banks plan

"I DON'T THINK WE KNOW YET WHERE ALL THE FRAUD OPPORTUNITIES CAN OR WILL MANIFEST THEMSELVES UNTIL WE GET FURTHER INTO DIGITAL CHECK PROCESSING."

—WILTON DOLLOFF, HUNTINGTON BANCSHARES

schemes that send official-looking e-mails and Web links to a bank's customers, asking them to update their user names and passwords. By breaking into an online bank account and viewing a customer's check images, criminals now have access to far more damaging information that they can use to circumvent a bank's traditional methods of fraud detection. For example, the criminal potentially could:

- Find out what check numbers the customer is using (if check numbers are significantly out of sequence, it can be an indication that the check is fraudulent).

- Get an exact digital replica of the customer's signature, which can be downloaded and easily copied using off-the-shelf computer equipment and printers.

- Mimic the customer's style in writing the date—such as mm/dd/yyyy—and their handwriting style in general.

- Obtain the names of people to whom the customer frequently writes checks (payees that show up often—such as a mortgage company, a spouse or a dependent—typically do not indicate fraud).

- Obtain the typical dollar amount that checks are written for so that large dollar amounts don't raise a flag.

Criminals may also gain online access to a customer's credit card accounts and stock and bond investments. Once this information

to destroy the paper check after the image is created. Some banks plan to shred checks immediately, while others will hold on to paper checks for a few weeks or even months. When a check is destroyed, any evidence not captured by the image—such as fingerprints or detailed security features—is lost. Finally, the check image is made on a gray scale, which means it does not show details as well as the physical paper check or a color image of the check. Details in the gray image that could tip off banks that the check is a fraud may be lost.

All these new vulnerabilities lead Frank Liddy, partner in the North American banking practice at the consultancy Unisys, to conclude that bankers have yet to fully realize the extent to which they are susceptible to increased fraud with Check 21. "This is bigger than any bank or banker can realize," he warns.

How to Outwit the Bad Guys

Despite such loopholes, Check 21 and other automated processes are here to stay. So what can CIOs do? A lot, it turns out.

The answers do not lie in better technology for detecting fraud, although that is important, but rather in planning fraud detection for whatever automated process is being installed, and then preparing the entire company for the

change through frequent meetings. CIOs will have to reach out to the executive in charge of fraud detection, typically the CFO, and to other executives who play important roles in the work process. They will have to lead the effort to make antifraud strategies one of the key drivers in creating new automated business processes that work.

That's exactly what Tizzard, who led Wachovia Bank's Check 21 implementation, did.

by organized crime are on the rise. As a result, antifraud processes are more important than ever to Wachovia and the banking industry.

To mitigate the risk of fraud from Check 21, McGinley organized a task force within his department to identify what in the new process could potentially create additional fraud vulnerabilities and which of the antifraud measures Wachovia already had in place (both manual and automated processes) could be applied to solve those new

sitive should the automatic scanning system be for picking up deviations?

Wachovia also has to decide how the scanning system should interface with other antifraud systems. For example, Wachovia operates an application that scans for deposits that are unusually large, which may indicate fraud. Wachovia plans to link the deposit analysis application with the check scanning analysis, so that if a check scan picks up an anomaly in a signature, for

IT'S AS IF CIOs ARE PLAYING A VERSION OF THE ARCADE GAME WHACK-A-MOLE, ONLY A MORE COSTLY ONE. THEY USE AUTOMATION LIKE A HAMMER TO SMASH FRAUD IN ONE PLACE, ONLY TO SEE IT POP UP UNEXPECTEDLY IN ANOTHER PLACE.

Tizzard says the bank approached the move to Check 21 as it would a merger with a large bank. Even before the law was signed, Wachovia made plans on how it would roll out Check 21, which won't be fully implemented until late 2006. After the law was signed, Tizzard and a small team of other Wachovia executives traveled nationwide to involve everyone in the discussion—from the CEO to department leaders (especially the risk management and loss management groups) to the bank's IT shop and product groups. "Everyone had an input on what the law would do," Tizzard says. "We knew this could be a Pandora's box. We overprepared."

Tizzard and the other Wachovia executives educated managers on how the new automated process would work and what the change meant for them and their customers. Showing bank tellers how to recognize legitimate substitute checks was particularly important. "We were not exactly well-received, but once we began meeting with them, we frequently stayed another hour," Tizzard says.

Wachovia has experienced a 120 percent increase in the number of fraud attempts in the past two years, yet the bank has been able to marginally decrease the monetary value of losses during that same period, says Brian McGinley, senior vice president and director of loss management at Wachovia. However, McGinley reports that the sophistication of the fraud is increasing, and fraud attempts

issues. For example, McGinley says the encryption techniques and other security applications that protect customer accounts and identities should be able to protect individual check images from hackers.

However, other issues did come up. Bank loss management teams, for example, are not sure how sensitive to make the digital check scanning system that the bank plans to deploy as an antifraud measure. The system will use biometrics to compare a genuine check—such as a check written for a small amount to, say, the electric company—with newly written checks under the same account. For example, the system will compare signatures, as well as the placement and accuracy of the Wachovia logo, and verify the Magnetic Image Character Recognition (MICR) line, which is the magnetic ink that prints the router and account numbers at the bottom of the check.

Wachovia can program the system to send questionable checks back for nonpayment or to a database and fraud queue so that an analyst in the group can examine the check for accuracy. But customers often do not follow predictable behavior, such as using sequential checks. And with joint accounts, business partners or husbands and wives will have different handwriting styles and may use different series of check numbers, both of which make identifying the exceptions more difficult, McGinley says. So the question remains: Just how sen-

sitive should the automatic scanning system be for picking up deviations? Taken in isolation, the difference in the signature may not be significant enough to raise concern, but when matched with the largest deposit in another account, it could increase the likelihood that the check is kicked out for further analysis.

Wilton Dolloff, executive vice president of operations and technology at Huntington Bancshares in Columbus, Ohio, says banks must cooperate in order to trust each other's processes for taking images, analyzing the images and sending what they believe to be lawful checks. That may mean allowing other banks, including competitors, to view check processing operations, and "to know if something breaks on your side or my side, what are we going to do?" Dolloff says.

Dolloff and Tizzard both say that the full impact of Check 21 will not be known for several years. While some steps can be taken to reduce fraud and prepare for it, no amount of planning will eliminate fraud altogether. "I don't think we know as an industry yet where all the fraud opportunities can or will manifest themselves until we get further into it, until we see it on a larger scale," Dolloff says. "We simply don't know how we are going to be attacked." **CIO**

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A New Way to Manage Vendors

CIOs grappling with an increasingly complex marketplace are finding relief—and better relationships with vendors—by forming VMOs within their organizations. Here's how.

BY SUSANNAH PATTON

When Carl Ascenzo took over as CIO of Blue Cross

Blue Shield (BCBS) of Massachusetts four years ago, the health insurance company outsourced most of its data center operations, help desk and code programming to a single vendor: EDS. Today, however, EDS is only one of four large technology providers working with the New England health insurer.

In order to handle the increasingly complicated negotiations with his growing stable of vendors, Ascenzo expanded a group within IT known as the vendor management office (VMO). Although a rudimentary VMO existed when he arrived at BCBS, Ascenzo added to its responsibilities, building a group that oversees RFPs, works with legal counsel on all contracts and maintains relationships with all vendors. Whereas the initial vendor management group dealt with invoices and back-end activity, the VMO now gets involved at the start of negotiations and helps IT managers make informed decisions on which vendor can offer the best deal and the best service for a particular project. BCBS's VMO—led by a manager with financial and IT experience—also makes sure the vendors know about each other in order to foster healthy competition among them, which ultimately leads to better products, services and pricing for BCBS.

Reader ROI

- ⌘ How to set up a successful vendor management office
- ⌘ What a VMO does
- ⌘ The benefits and pitfalls of a VMO

**CARL ASCENZO, CIO of BLUE CROSS
BLUE SHIELD OF MASSACHUSETTS,**
expanded the insurer's vendor man-
agement office to unravel the maze of
complex vendor negotiations.



Vendor Management

"When we moved from being a single-sourced company to a multivendor model, it became clear we needed an expert who knew all the vendors, was out in the marketplace all the time, and was well-versed in contracts and negotiations," Ascenzo says. "The result is that the prices we are getting are always competitive, and the quality of the work has improved."

BCBS's use of a VMO is not uncommon. Organizations grappling with more com-

São Paulo, Brazil. "The dream of any VMO [head] is to offer his or her enterprise exactly the combination of resources and services that are needed, and to pay for exactly what you are using. It's not that the IBMs and Hewlett-Packards of the world are dishonest; they just don't know your company."

VMOs started to appear on the corporate IT landscape after 2000, when the economy soured and CIOs were forced to justify IT spending. In order to get the best

department, a CIO can more easily manage relationships with multiple vendors, keep track of metrics and vendor performance, and negotiate discounts on IT services and products. While a project manager may know best what technology is needed for a specific project, a VMO can help make sure the company gets the most competitive offers from vendors. That's precisely why having a VMO within your organization can be a good idea. And it's also why we've asked three CIOs with experience managing a VMO for their tips and advice.

HOW TO STRUCTURE A VMO

After Jim Lester was appointed CIO of Columbus, Ga.-based insurance giant Aflac in 2001, he set out to change the way the company buys hardware, software and IT services by creating a VMO. He had been on the other side of the fence in his previous job as a software vendor and wanted to create a system in which Aflac would be able to get the best technology deals. That would mean treating vendors with respect, but also making them compete amongst themselves to provide discounts when possible.

Lester's first task was to find a VMO manager with an understanding of technology and experience in finance and legal issues. He knew that someone with this combination of skills would be best equipped to handle accounting and contract issues. After searching for several months, he hired Stephen Guth, a former programming analyst who had also earned a law degree and worked as senior manager of sales operations support for Dell.

Over three years, Lester and Guth have put together a process in which IT managers create project briefs and submit some of them to the VMO, which in turn finds the best deals—in terms of price, quality, and vendor commitment and expertise—from vendors and negotiates IT contracts for Aflac. The project brief is generally a two-page description of an IT project, drawn up by the project sponsor, that includes a full explanation of the technology and business needs.

Guth and his group, working with the



JIM LESTER, AFLAC CIO, hired a VMO manager who knew technology as well as finance and legal issues.

plex IT offerings and juggling multiple vendors are increasingly forming VMOs within their IT departments. They are looking for cost savings but also better service and more control over the technology buying process. With a quickly changing technology market and a shift toward more outsourcing and multiple vendors, CIOs are often uncertain whether they are getting the best deals from vendors.

"The market today has become very sophisticated, especially with the increase in outsourcing," agrees Cassio Dreyfuss, a Gartner vice president of research based in

deals, CIOs subsequently began working with a greater variety of vendors. The increase in outsourcing has also pushed more CIOs to consider centralizing their IT procurement. After 2000, some companies began to form "sourcing offices" that oversaw spending on IT services. And large vendors—such as IBM and HP—started to bundle IT services with hardware and software to meet individual companies' needs. "This means that buying IT now requires a deeper knowledge of different aspects of technology," Dreyfuss says.

With a dedicated VMO within the IT

project sponsor, then start looking for an appropriate vendor, basing the search on their own research, experience and vendor metrics. Once negotiations start with a vendor, after a complete RFP process, Guth uses his own standardized contracts rather than relying on those drawn up by the vendor. "When you set up a standardized practice [for vendor selection] with people who do it over and over again, you are going to get the best deals for your company," says Lester.

This centralized approach has formalized Aflac's relationships with vendors that in the past were handled on an ad hoc basis. Before the VMO, vendors met with a wide variety of IT managers and even technology users. Aflac's technology projects are now completely aligned with business initiatives, says Lester, because they are initiated by the business, not by technology vendors.

Aflac treats its VMO as a concrete office with a dedicated team. But a VMO can also be a virtual office, experts say, made up of individuals in disparate geographical locations. Most important, though, the VMO should remain within the IT department if CIOs want to maintain control over technology procurement. "The CIO has traditionally been focused on IT," Gartner's Dreyfuss says. "But we are telling them they need to establish a [business-level] relationship with the CFO and business leaders. This will be easier to do with a VMO in place." Dreyfuss says that in rare cases companies have expanded the VMO to include all types of procurement. But he says this type of arrangement can lead to turf wars.

The VMO is still in its infancy, however, and there are no firm statistics that show how many companies have one. VMOs are especially appealing to large companies with diverse IT needs, simply because they are handling so many vendor relationships. But the centralized office isn't for every company. In industries where competitiveness is not based on IT—such as petrochemical and steel or paper mill companies—a VMO may not be necessary because vendor relationships are relatively static. In large multinationals with offices around the globe, a single, centralized VMO may be difficult to implement. And small companies, which simply don't have very many vendor relationships, may not need it.

A VMO's Duties

- **SET UP** formal RFP process and oversee all RFPs
- **MONITOR** vendor performance using Balanced Scorecard or other method
- **NEGOTIATE** contracts with vendors
- **WORK** with project managers to oversee IT budgeting
- **DEVELOP** form agreements and contracts in order to avoid signing contracts always drawn up by vendors
- **LEARN** vendor tactics and how to use them to company's advantage
- **STAY** abreast of market conditions and pricing trends
- **CATEGORIZE** suppliers into groups such as "strategic" and "commodity"; a strategic supplier should have good access to the CIO

—S.P.

ONE ADVANTAGE OF A VMO: SAVE MONEY

CIOs report that VMOs have saved them money in hardware, software and IT services, mainly because they are constantly comparing prices and vendors. "An application development manager may go into the market two or three times a year," says BCBS's Ascenzo. "But those in a VMO are constantly in the marketplace and therefore are very aware of market changes. The VMO is invaluable when it comes to reacting to market changes," he says.

At the American Red Cross, CTO Dave Clarke says he has cut ongoing operating costs by more than 20 percent from three years ago by rebidding, restructuring or not renewing contracts with software and hardware vendors that his VMO has found to be performing poorly. Clarke says the VMO has helped him save money by tracking spending, which helps the management teams find better deals. "The VMO is a major element of our approach to financial rigor," Clarke says.

The collaboration between Guardian Life Insurance's VMO and its telecommunications department has helped the company cut telecom costs by 35 percent by negotiating a new contract, says Rick Omartian, CFO for IT. By bringing in all of the major telecom players in an RFP process, the company found that it could save money by switching from MCI WorldCom, which had been chosen several years before by the head of the company's telecommunications department, to Sprint and Quest. Before Guardian had a VMO, contracts were often negotiated without RFPs, which meant they didn't always get the lowest price.

Aflac has also saved money through careful negotiations by its VMO. Guth says that when negotiating with a supplier on a hardware purchase, he can leverage volume discounts by adding some IT services into the deal. "Instead of using two companies, I'll use one and get a big discount," he says. In fact, he was able to negotiate such a deal with IBM, which provides both desktops and services to Aflac.

Guth emphasizes that first and foremost, his goal with the VMO is to "maximize Aflac's tech investments so that the company pays a fair and reasonable price in return for superior delivery." He reminds CIOs that getting the lowest price is sometimes less important than assuring a vendor performs well and brings in senior staff to do the job. "Some customers are not savvy and try to get a supplier down on price at any cost," he says.

CREATING VENDOR COMPETITION

Guth also notes that the VMO allows Aflac to minimize risk by creating its own purchase agreements; the majority of its deals have contracts drafted by Guth rather than by vendors. While such an approach isn't restricted to a VMO, Guth's expertise with legal and financial issues has helped him put this practice in place. This is another good reason to hire the right person to head a VMO.

"When I got here, all of our contracts were on supplier paper, whether they were soft-

Vendor Management

ware licenses or services," he says. "They were all slanted to the supplier. By getting our own form agreements, we help reduce legal risk and operation risk." Microsoft, for example, has negotiated agreements using Aflac's contracts, he adds, giving Aflac protection against possible proprietary rights infringement and any other contract-related risks. Guth speaks with pride about this accomplishment but admits that vendors haven't always liked working from Aflac's contracts. He stresses that his legal background led him to insist that Aflac use its own contracts wherever possible and also notes that vendors have been willing to accept the unorthodox arrangement because Aflac treats vendors fairly—not always driving for the rock-bottom price.

What's more, vendors working with companies that have VMOs are more likely to perform competitively, Ascenzo says. "We like to make sure our vendors know about each other in order to maintain a competitive environment and drive down costs," Ascenzo says. For example, EDS, which does middleware integration for Blue Cross Blue Shield, knows that BCBS uses other software developers to work on its Web browser interface. EDS has bid on that work as well.

Joe Fraser, an EDS client delivery executive who spends most of his waking hours working with Ascenzo's VMO, confirms that thought. "We are a preferred vendor right now, but by no means are we entitled to all of the IT work that comes down the

road," Fraser says. "Carl [Ascenzo] has created a competitive environment among vendors." Despite this added competition, Fraser says working with BCBS's VMO has saved time because he now deals with one VMO director instead of multiple IT managers. But he admits he had to work out some kinks in the beginning.

Initially, Fraser spent some time explaining the new process to his staff, and reworking his documents and templates to fit BCBS's standardized approach. He has also worked closely with Tony DeGregorio, BCBS's VMO director, to make sure both sides were communicating well. Now, for example, he says, both EDS and BCBS are better able to prepare a 2005 budget analysis because they can better predict costs and revenue.

Tom Iannotti, manager of consulting and integration business at Hewlett-Packard, says that although he has not yet seen widespread adoption of the VMO-type of function among his clients, he has noticed a difference in how companies buy IT products and services. "There is a general ratcheting up of expectations from suppliers," he says. "Companies are focused on getting more return for their investment. They are no longer naively expecting miracles. They are buying IT just as anyone would carefully buy any sort of investment."

BEWARE OF THE PITFALLS

When Clarke set out to create a centralized VMO at the American Red Cross two years ago, the radical change in how the organization treated its technology vendors created some internal disquiet. "There was some concern and confusion from the line managers that the VMO would exercise complete control," Clarke says. "That was not the intention, but we needed to clarify the VMO's role." Line managers, says Clarke, said they didn't want to be shut out of the buying process, and were relieved to learn that they were still responsible for procurement. The vendor management office tracks spending and provides that information to the management team, which in turn can secure better deals.

Clarke's VMO serves as a center of expert-

AT THE AMERICAN RED CROSS, CTO DAVE CLARKE says the VMO tracks spending and provides that information to the management team, which in turn can secure better deals.

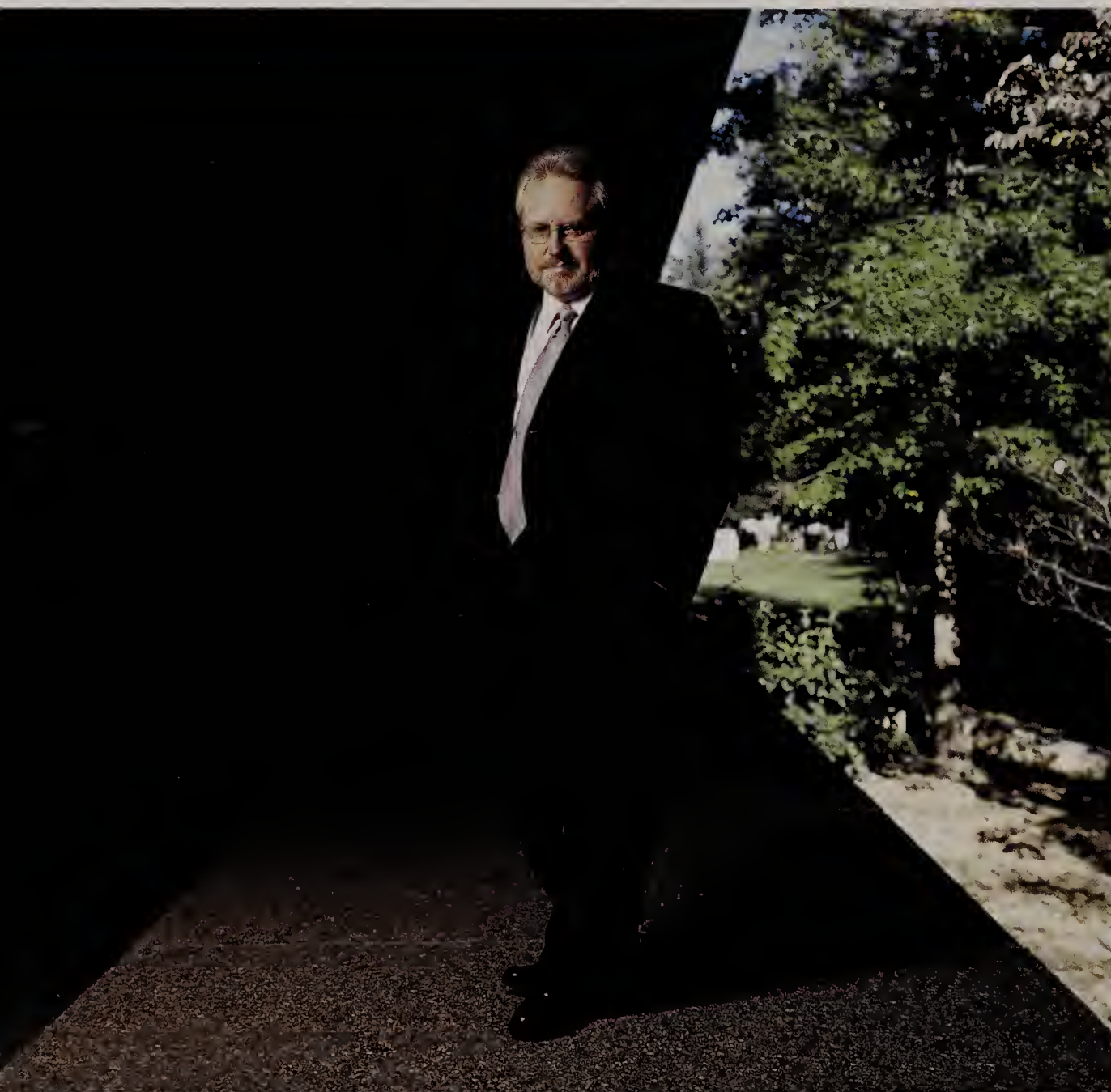


PHOTO BY RON AIRA

ise for IT's role in the overall contracting process, analyzing IT spending and vendor performance. But it is a sort of information clearinghouse that ultimately defers to the organization's national contracting office when negotiating contracts.

"We view the VMO as a bridge between technology and business requirements and contracting requirements," he says. Clarke stresses, however, that they did not want to create a bottleneck in which all contracts must be signed off by the VMO. At Aflac, where the VMO plays more of a leading role, Guth says, some IT managers and technology users miss negotiating with vendors. "Internal customers really enjoy negotiating with suppliers," he says. "So we try to bring them into the process. We at the VMO are tightly coupled with our [technology] customers."

Clarke and Guth stress that organizations setting up VMOs need to be sure that managers who have had control over vendor relations in the past understand the change and that IT users be brought into the process whenever possible. Wayne Bennett, a partner in the commercial technology area of Boston law firm Bingham McCutchen, cautions that VMOs could cause problems if they leave business owners out of the IT purchasing process. If those who need the technology aren't part of the buying process, he reasons, they might feel left out and less motivated to successfully implement their project; they might also feel as if they didn't get the technology or service they really needed. "The success of most complex IT projects requires the intense participation of not only the CIO and key IT personnel, but the business owners of the process as well," Bennett says.

Once a VMO is firmly in place, convincing vendors to work with the office can also prove to be a challenge. "If vendors are used to dealing with a number of people, they will try to use a divide-and-conquer approach," says BCBS's Ascenzo. They may also, in some cases, try to go around the VMO altogether in order to make a sale to the person who they think holds the purse strings. To avoid such problems, Ascenzo and other CIOs with VMOs go over the process carefully with vendors. Ascenzo

Six Keys to Success

Smart CIOs have set up their VMOs with these tips in mind

1 Centralize the function under IT and get executive support for the plan.

2 Win over internal customers. During vendor negotiations, those in the VMO should include the internal customers whenever possible. If they see the benefit and are included, they will be less likely to try to circumvent the VMO or aid vendors attempting to do the same.

3 Start small. Pick some areas to apply the VMO to initially and build it over time.

4 Appoint a VMO director with legal or financial experience—or both. Experience as a vendor helps as well.

5 Use your own contract whenever possible to minimize risk. If that's not possible, mark up the vendor's contract to make sure it's in your favor.

6 Keep vendors competitive by making sure they know about each other.

—S.P.

says he has consistently repeated to vendors that DeGregorio at his VMO is in charge of vendor management. "You have to make sure that the VMO is of equal power to the rest of the direct reports to the CIO. And the vendors have to know this," Ascenzo says. "I continually endorse that Tony [DeGregorio] has power and authority."

Aflac's Lester adds that CIOs need to be prepared to be tough with vendors who don't cooperate. "We've had to replace some vendors who did not want to work with the VMO or with IT in general," Lester says. In one instance, he says, Aflac saved over \$2 million by rebidding a contract held by a vendor that refused to work with the VMO.

VMOs HERE TO STAY

The economic downturn over the past several years has given a clear advantage to technology buyers over vendors, thus paving the way for companies to get tough in negotiations. But CIOs interviewed for this article say their VMOs will remain in place regardless of the economic climate. "It has been a great time to be a buyer of IT services, but I don't see the process changing at Guardian," says Omartian. The shift toward multiple vendors and large outsourcing contracts means that CIOs can benefit from a centralized VMO "in any climate," he adds. With a VMO, they are likely to get better deals and better service from vendors—no matter who has the upper hand.

Some CIOs say they are so pleased with the new arrangement that they plan on adding responsibilities to their VMOs. At Aflac, for example, Lester predicts that his VMO will become more active in searching for technology acquisitions. The VMO already does a lot of behind-the-scenes work, investigating vendors by talking to venture capitalists, and analyzing when a startup might sell or have an IPO. In the future, the VMO, in addition to negotiating deals with vendors, might be able to discover promising technology companies. (Lester speaks with experience on this topic; Aflac bought his software company in 1999.)

With hundreds of vendors trying to get in touch with Aflac daily, Lester says, many would never get through without the VMO. "There are a lot of small vendors who call us, and they might have great ideas," Lester says. "With an expanded VMO, we will be able to try some of them out. We're ready to take it to the next level." **CIO**

Senior Writer Susannah Patton can be reached at spatton@cio.com.

Talk to Jim Lester

Wouldn't it be nice if your company could consistently get the best technology deals? You'd probably make your vendors compete amongst themselves to provide discounts. Dreaming? That's just what CIO Jim Lester did at Aflac. To **ASK THE SOURCE** your questions about starting a vendor management office, contact Lester at www.cio.com/ask.

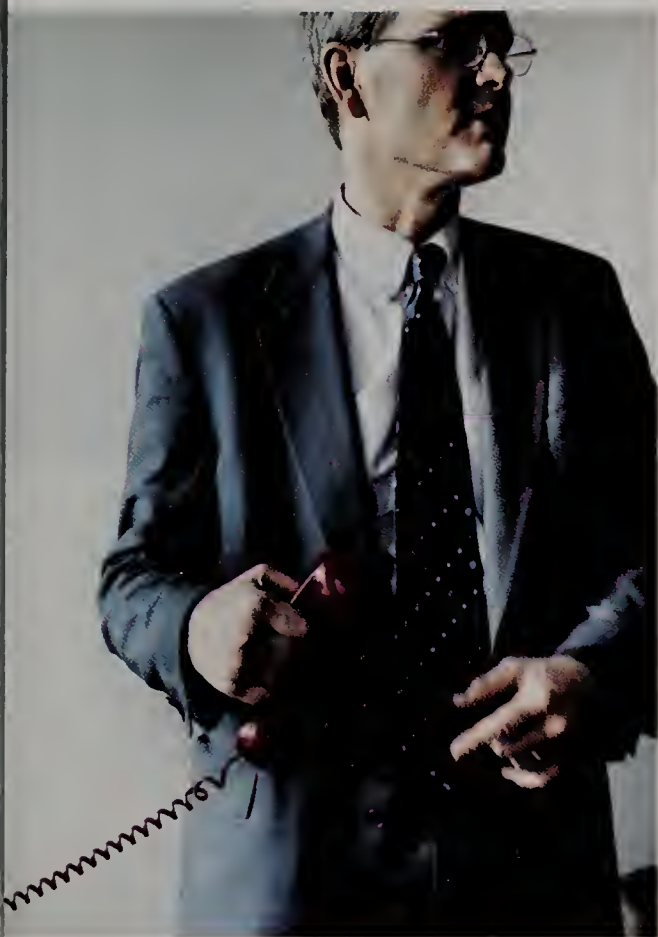
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Glaser Faces

For the CIO of Partners Healthcare, fixing recurrent slowdowns and outages to the electronic



John Glaser's Tips for Leadership in a Crisis

1. Drop everything else and focus all available resources on the problem. A crisis, if left unsolved, can undermine your efforts on every other front.

2. Bring in the big boys (service providers such as IBM or Hewlett-Packard) to show that you are taking the matter seriously. Worst-case scenario: At the very least, they confirm what the problem is.

3. Make sure that the CEO, other executives and your end users know what is wrong and what you are doing about it.

4. Resist the temptation to assign blame and point fingers. Talk about what we are going to do instead of what *you* are going to do.

5. You have to be willing to get beat up. Whether inviting angry e-mails or meeting with people who you know will yell at you, your job is to absorb the anger.

the Music

medical records system was a major test of leadership By Ben Worthen

All systems go down at some point.

So John Glaser, CIO of Partners Healthcare, wasn't particularly worried when the electronic medical record (EMR) system used by more than 6,000 doctors and nurses affiliated with Partners started experiencing brief outages in late July. After all, since the start of 2004 the EMR system had experienced anywhere from two to six short disruptions a month—slowdowns or outages lasting from a couple of minutes to several hours. Inconvenient, yes, but not the end of the world. There was no reason to suggest that this was any different.

But the disruptions got worse—the outages occurring with greater frequency. The automated alerts Glaser receives when his systems are strained poured in. Doctors called and e-mailed with complaints. Partners administrators let him know that a lot of people were irritated. In every crisis there is a point at which the notion that this is just a bad week gives way to the recognition that you are treading on thin ice.

By early August, Glaser says, “we realized we were in trouble.”

Between then and mid-September, Partners' EMR system slowed or shut down 25 times, often for hours at a time. Each disruption affected every doctor on the system; they could not gain access to their patients' medical records, and at times clinics were forced to turn patients away untreated. The IS department faced heat on all sides—from the doctors whose work was disrupted and from Partners' administration who feared a medical mutiny over the EMR system.

Dr. Mark Eisenberg, a doctor at Partners' Charlestown Healthcare Center, couldn't access his patients' medical records for 45 minutes during one of these slowdowns. “It is a real problem if we have no record to look at when we see a patient,” Eisenberg says. “There are real concerns about care if you can't see lab results or what medications someone is taking.”

Partners is Boston's largest hospital group. The organization includes two of the city's major academic hospitals—Massachusetts General (MGH) and Brigham and Women's—as well as smaller community hospitals, clinics and even individual doctors' offices. The two hospitals have been among the earliest adopters of medical information systems. Some of their doctors have been using the electronic medical records

for 15 years, and the overall adoption rate is about 70 percent within Massachusetts General and Brigham and Women's hospitals. The rest of the community lags far behind, however. Excluding the large hospitals, the adoption rate for the rest of the

tors—some only one or two—and they don't always see the financial point of investing in the EMR system. Between networking costs, converting paper records to electronic records, linking or replacing existing office systems and some lost productivity while everyone learns how to use it, installing the system costs somewhere between \$5,000 and \$10,000, according to Glaser. That's a lot of money for a small office, and while EMRs will eventually boost productivity, even Glaser admits that there isn't an ROI. “In our best case it is right on the edge of break even,” he says. “Our hope is that the vision is enough to push it over the edge.”

But every time something goes wrong with the system, that vision of the future moves farther away and Glaser's job gets



“It was clear that there was no way we were going to fix this in one week. We had to prepare for a series of lousy weeks.”

—JOHN GLASER, CIO OF PARTNERS HEALTHCARE

Partners network is only 10 percent. One of Partners' top goals over the past two years has been to bring on board these users, a group of approximately 2,000, who are mostly physicians in private practices affiliated with one or more of the hospitals in the Partners system.

EMR systems provide many benefits. In addition to cutting claims and billing costs, they improve patient care by significantly reducing medication or lab test errors that result from sloppy physician handwriting. Such systems also check for drug allergies and adverse interactions with existing prescriptions, and they can advise physicians on what test or procedure is most appropriate.

Even so, they're a hard sell. Many physician practices have only a handful of doc-

harder. The CIO is the first to acknowledge that solving the mystery behind the recurring EMR system slowdowns and restoring the faith of doctors and administrators was a major test of leadership for him. “If [a problem] goes on too long, it erodes the trust that your community has in you,” Glaser says.

No Quick Fix

By the first week of August, it was clear to Glaser that something was wrong with the EMR system. On Friday, Aug. 6, after the system had experienced outages and slowdowns almost every day for two weeks, Glaser realized the status quo was no longer acceptable. He assembled two key groups for a meeting—the people who touch each of the organization's systems on a daily basis and the

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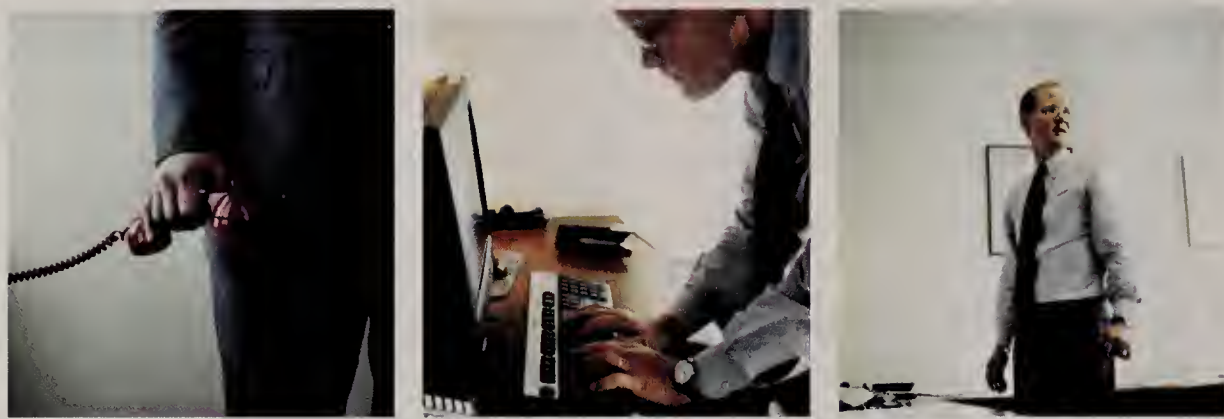
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"You don't sugarcoat anything. If you screwed up, you need to be able to say so."

—JOHN GLASER, CIO OF PARTNERS HEALTHCARE

IS people who work on the hospital floors.

"I wanted to hear from a technical point of view everything that had happened," Glaser recalls. "I also asked the people on the front lines, What does it look like for the doctors? How disruptive is this? I needed to know what it feels like to live with this."

What Glaser heard wasn't reassuring. The doctors were growing restless. The outages compromised their ability to treat patients. And there wasn't a quick fix looming. Glaser's IS staff identified multiple reasons for the disruptions. The largest single culprit: A server that supported the EMR system kept crashing. Other times, it seemed as if the EMR database had outstripped its capacity. Still other times, an unpatched memory leak in Internet Explorer was the cause of the outages.

"It was clear that there was no way we were going to fix this in one week," Glaser says. "We had to prepare for a series of lousy weeks."

Glaser quickly came up with a game plan. The technical people would continue trying to diagnose and fix the problem, focusing solely on this task. Other projects, such as compliance with the Health Insurance Portability and Accountability Act, would be put on hold. Glaser would provide cover if anybody asked questions about these temporarily neglected tasks. He also brought in a team of IBM consultants to help diagnose the problem.

In addition, all new EMR system deployments in outpatient physician practices would be put on hold, and a new working group, headed by Glaser's deputy Mary Finlay, was created to approve all application

and infrastructure changes. Glaser, meanwhile, would face the music.

He was the one who had to explain to CEO James Mongan and the rest of the leadership exactly what was going on and what was being done about it. While these administrators made it clear that they were not happy, they didn't panic, giving the CIO time to fix the problem. Glaser also met with the physician leadership at Partners' hospitals and explained what was going on. "They don't want to know what you are doing on a day to day basis," he says. "But they want to know that you are taking it seriously."

On Aug. 11, Glaser sent out an e-mail to the entire Partners medical community. In it he acknowledged the recurrent slowdowns and said that fixing the underlying problem was his top priority. He tried to be as frank as possible. "You don't sugarcoat anything, even if it means that you have to look at yourself in the mirror and not like what you see," he says in hindsight. "If you screwed up, you need to be able to say so."

Absorbing the Anger

Glaser knew he had to be visible. "In situations like this, most formal communication has to come from me," he says. "I have to send this e-mail out; I can't delegate that. I have to be at the advisory board meeting. I have to meet with the leadership at MGH and the Brigham."

Sometimes his sole job at a meeting was to get yelled at by doctors. "They are angry and upset, and they want to yell at someone, and it has to be you," Glaser says. And some doctors took advantage, swearing at him to his

face, and accusing him of hurting their patients. "You have to roll with it," he says. "You have to resist the temptation to fight back." By absorbing the anger himself, Glaser allowed his employees to solve the problems without interruption.

As it turned out, almost all of the disruptions could be traced to the same root cause. In its effort to expand the reach of the EMR system, Partners had neglected to upgrade its operating system, and the old system just couldn't handle the load it was forced to bear. The IBM consultants confirmed this. The old system hadn't been designed to support a record system as large and dispersed as Partners'.

Upgrading the system, however, would take time, primarily because the vendor, Intersystems, had never worked with an application infrastructure as complex as Partners', and every piece of the new system would have to be tested. In the meantime, Glaser's team spent September making short-term fixes, such as adding more servers. By October, there were only four incidents, and by the end of December, the new upgraded system was in place. Glaser hopes the new operating system will keep the EMR database up 99.9 percent of the time. In the aftermath of the crisis, Glaser has had to reassess his plans to extend the EMR capabilities to all of Partners' affiliated doctors. That ambitious project will have to wait. "If you continue to roll out the implementation, you just look reckless, like you are so bent on the goal that you are ignoring reality," he says.

Instead, Glaser will focus on reestablishing his department's track record. "If you have a good reputation when you go into [a crisis], people believe that you are honest and that you can fix it," he says. "Your words have an aura of credibility. But if a problem goes on too long, history becomes irrelevant."

Glaser won't know for months the extent to which the prolonged disruptions have affected the credibility of his IT leadership. But he doesn't have time to worry about the repercussions now. He's focused on keeping the EMR system up and running 24/7, because that, after all, is the future of medicine. **CIO**

Senior Writer Ben Worthen can be reached at bworthen@cio.com.

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forum::SOX

IDEAS & INSIGHTS FROM THE CIO EXECUTIVE COUNCIL :: EDITED BY CHERYL ASSELIN

tool kit



MARC WEST,
CIO at H&R Block,
provides a checklist
of items to consider
when shopping for a
Sarbanes-Oxley tool.

Vendor Evaluation Checklist

- ☐ **GRILL THE VENDOR**
about integration with ERP and finance systems. Don't assume a tool will capture all financial data, like those in spreadsheets and non-core systems. Regardless of what the vendor says, integration is on your plate.
- ☐ **ASK IF THE TOOL**
meets CoBit/COSO requirements. The vendor should tell you whether an audit firm will accept the tool's capability to measure controls.
- ☐ **DISREGARD VENDOR**
claims of an out-of-the-box solution. You will need to configure any tool to meet your unique needs and to work with internally developed IT systems. Never underestimate the amount of time and resources that customization will consume.

ON CERTAIN TERMS

sig·nif·i·cant de·fi·cien·cy

A significant deficiency is a control deficiency (or a combination of internal control deficiencies) that adversely affects a company's ability to initiate, authorize, record, process or report external financial data reliably in accordance with GAAP. When a significant deficiency exists, there is a more-than-remote likelihood that a more than inconsequential misstatement of the company's annual or interim financial statements will not be prevented or detected.

SOURCE: Public Company Accounting Oversight Board

FROM THE FRONT LINES

How to Prepare for Sox Compliance

Larry Brown was one of the "lucky" CIOs who had a Dec. 31, 2004, Sarbanes-Oxley (a.k.a. Sox) deadline. Thinking back on the long road to the deadline, the vice president and CIO of Arch Coal shares some of the lessons he learned along the way.

If your year-end is not until April 2005, he strongly suggests asking your already audited peers for additional advice. He also advises asking your external audit firm to discuss the major risk areas it focused on for calendar-year-end 2004 audits. Learning from those who have already been there will help prepare you for the upcoming deadline, year two of Sox and beyond.

1] Bring in business sponsors.
IT projects succeed when the business side supports them. The same is true with Sarbanes-Oxley compliance. "Business units and department managers must understand the impor-

tance of internal controls over financial reporting," says Brown. "IT can help in the effort by having systems that can institute preventive controls, but after the fact, the responsibility shifts to the process and control owners. The initiative cannot have the appearance of an IT-driven project, or the external audit

LARRY BROWN,
VP and CIO of Arch
Coal, was one of the
first CIOs to comply
with Sox regulations.



firm may question the competence and objectivity of the effort." The external auditor will look for ownership by the internal audit function or a department under the controller's responsibility, not by IT.

2] Overestimate your costs from the beginning. "As we went through the process of documenting controls and identifying risks and procedures at each site, we uncovered control deficiencies in the process," says Brown. "These control deficiencies had to be remediated and then retested, which added time and resources that we did not originally include in the

Continued on Page 70

FRONT LINES, Continued from Page 69

budget." To avoid requesting additional resources from the CFO, Brown recommends building in a higher cost estimate for compliance from the outset.

3] Put the best people on the job. Make sure the internal audit team members who are testing the controls are qualified—that is, highly competent and objective—or your external audit firm may reject the results and add more of their own pricey staff to do the audit, warns Brown. He notes that \$2 billion coal mining company Arch Coal made it a point to use qualified individuals to do

the testing the first time around and supplemented the internal audit staff with qualified external contract auditors.

4] Visualize it. As Sox compliance preparations began, Brown used visual aids to describe process flows and to identify where controls were embedded throughout the process. His auditors found these visual tools to be useful as part of the control design prior to examining detailed documentation.

5] After the audit, it's not business-as-usual. "Once the

audits are over and all the remediation and retesting is complete, everyone will want to get back to their day jobs," says Brown. But Sox isn't over when the last auditor has left the building. He strongly recommends developing plans to incorporate a risk and control mind-set into the culture of your company before beginning to evangelize. "Continuously engaging the business managers and process owners in self-assessment testing will keep Sox a part of their job," says Brown.

—Carrie Mathews, member services manager, CIO Executive Council

PEER COUNSEL

For CIOs not directly affected by Sox, what impact has the regulation had on you and your organization?

A: **OUR UNIVERSITY** oversight boards generally comprise members from public companies and auditors that have a very conservative mind-set. In response, the bylaws of the board have been revised to be more in compliance with Sarbanes-Oxley.

For me in IT, the impact has been a shift in priorities, resulting in more time and resources spent on expanding controls, reporting and oversight across the organization rather than in developing new services. I focus more of my attention on change management, asset tracking and structured methodologies for IT development and management across the organization, not just within the central IT shop.

—Dave Swartz



DAVE SWARTZ,
CIO, The George
Washington University



BILL REGEHR,
CIO and senior VP of
IT, Boys and Girls
Clubs of America

A: **WHILE NONPROFITS** are not affected by all the components of Sox, it is generally accepted that we are subject to two stipulations of the law. First, we are required to have "whistle-blower protection," and second, we are required to have a records retention policy in place. We have complied with both of those regulations. In IT, I am currently orchestrating an effort to ensure that we destroy records that are outside of the records retention policy. In 2005, we will be implementing a document management system to assist us with retention of electronic documents.

As to the sections of Sox that don't apply to nonprofits, our board is being very careful to ensure that we establish the governance and controls that are set up by the act.

—Bill Regehr

findings

AFTER CONSIDERABLE frustration, CIOs reported a decent degree of clarity over how to manage the Sarbanes-Oxley compliance effort, according to an October 2004 CIO Executive Council poll of 162 members.

RESPONSIBILITY WITHIN THE ORGANIZATION

70%

reported a team effort among the CFO, CIO and staff.

MEETING SARBANES-OXLEY REQUIREMENTS

73%

understood what Sox requires.

49%

did not think the requirements are fair and reasonable.

COMMITMENT TO SARBANES-OXLEY

82%

said their organizations are making a 100% commitment to fulfilling all the requirements of Sarbanes-Oxley.

11%

said they are doing the minimum to get by.

ON THE HORIZON

Year Two of Sox

At the recommendation of the Executive Council's Sox task force, David Hartley, director at Protiviti, an internal audit and technology-risk consultancy, spoke recently to members about what to anticipate during year two of Sarbanes-Oxley. He offers three key pieces of advice:

MOVING FORWARD in year two, companies need to view Sarbanes-Oxley compliance as a long-term, ongoing process. First-year efforts to meet the requirements largely were project-focused, and documenting the internal control environment was, much of the time, done manually. To effectively guide the IT shop in year two, CIOs must recognize that technology is a key component of any organization's control structure.

CIOs SHOULD chart a course that begins with Sarbanes-Oxley compliance and moves to IT governance and broader compliance management, and

eventually toward enterprise risk management. CIOs should understand their role in executing the corporate strategy regarding controls compliance.

IN YEAR two, CIOs should continue to emphasize the importance of IT process maturity. The best way to ensure compliance is through processes that are well-controlled and documented, and are understood and operated consistently. This requires an investment in tools, infrastructure and training. CIOs should define their IT process requirements and then identify enabling technology to support those requirements. Establishing an IT com-



DAVID HARTLEY, director at Protiviti, says companies need to see Sox compliance as an ongoing process.

pliance and control group that goes beyond Sarbanes-Oxley compliance is one way to ensure that controls are in place and auditable going forward.

[ONE::LINER]

“The devil is no longer just in the details but now lives in the policies and processes as well.”



SHERRY LALONDE, CIO at Cooley Godward and member of the CIO Executive Council's task force on Sarbanes-Oxley

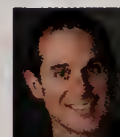
COUNCIL NEWS

The CIO Executive Council is a professional association of CIOs. Its founding principles grew out of conversations with several CIOs interested in shaping the future of our industry. These discussions yielded two simple concepts: Our best consulting resource is often a peer CIO, and a coalition of CIOs under the direct leadership of its members is a unique way to tackle some issues that are core to our role and to our industry.

Formed in April 2004, the council counts among its 200 members CIOs from around the world representing every sector and industry, and every size. We are organized around task forces, each with a distinct mission. The IT Staffing Task Force, for example, led by **Jeri Dunn**, CIO of Tyson Foods, and **Barbara Kunkel**, CIO of Nixon Peabody, will work with academic institutions to make sure they are producing business-oriented IT professionals. The IT Value Task Force, led by **Kevin Humphries**, senior vice president of technology services at FedEx; **Steven John**, CIO of Agrilience; and **Steve Brown**, CIO of Carlson, is building a framework to help the corporate executive committees understand how IT affects an organization's financial performance.

In these pages in the months to come, we will highlight the work of these and other task forces and share some of the peer-to-peer insights of our membership, in the hope that it will benefit the CIO community at large.

—Mark Hall, CIO, CXO Media
and General Manager, CIO Executive Council



To learn more about the CIO Executive Council, visit www.cioexecutivecouncil.com or contact Managing Director Martha Heller at mheller@cio.com or 508 988-6738.

Bold Is Beautiful

Forget about tactics. If you want to be the most effective CIO, it's time to put your fears aside and get aggressive.



It's 2005. Welcome to the second half of the 21st century's first decade.

As you start the new year, ask yourself this: How bold are your 2005 technology plans? Are they strategic? Or are they tactical? Will they transform the way your company does business? Or, will they simply support your company's existing ways of doing business?

Peter Weill, the director of the Center for Information Systems Research at the MIT Sloan School

of Management, has done work on IT investments, and he segments IT budgets into four components: transactional IT aimed at lowering costs; informational IT comprising compliance, business analytics and so on; infrastructure IT; and strategic, or bold, IT projects.

According to Weill, only about 13 percent of the average IT budget falls into the strategic or bold category. Why is this so low? Fear of failing is the culprit. Weill's data reports nearly half of these plans for bold IT fail within three years. And the CIOs who architect these plans are often swept out the door with those failures.

How does your budget compare to Weill's numbers? Will you be allocating more or less than 13 percent of your budget to strategic, bold initiatives? When meeting with other executives and customers, do you talk the bold talk but then walk the tactical walk when it comes down to implementing your plans?

Allocating 13 percent of your IT budget to bold initiatives is not enough. If you truly want to be bold in 2005 and beyond, the surest way to do that is to spend more, not less, on your most bold and business-transforming initiatives.

Gary J. Beach

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CIO CHRIS FRANCE boosted flexible IT spending at Little Diversified Architectural Consulting to 90%.

36 | COVER STORY FLEX TIME

IT executives today are confronted by a paradox: They have been charged with driving costs out of operations while at the same time they're being asked to innovate. The way to accomplish both is to alter the ratio between the fixed and flexible portions of their IT budgets, favoring the latter. CIOs in many industries are lowering their fixed costs by consolidating vendors, buying out long-term contracts and outsourcing. The risk is that the CFO will take the newly freed funds from IT, viewing them as discretionary. But the entire enterprise benefits when CIOs can invest in technologies that spur growth and generate competitive advantages. While there's no ideal, universally applicable "flexible versus fixed" cost ratio, having between 70 percent to 100 percent of your budget fixed is considered to be toxic to innovation. To determine the best mix for you, you need to be able to forecast market demand and benchmark against the fixed and flexible budget models of others in your industry. *By Susannah Patton*

28 | I.T.: HALF-FULL?

CIOs WHO ACHE FOR the good old days often bemoan that outsourcing and packaged solutions have hollowed out IT. This view of IT as a glass half-empty can become a self-fulfilling prophecy, says Susan Cramm. In her new column, Executive Coach, Cramm suggests that CIOs should stop obsessing about outsourcing and focus instead on differentiating their customer-facing processes. These provide the key to the competitive advantage that internal IT organizations can exercise over external vendors. Therefore, ask not, "What can my business do for IT?" But ask instead, "What can IT do for my business?"

48 | AN INVITATION TO STEAL

MANY PEOPLE ASSUME that automating operations will—along with saving money—reduce opportunities for fraud. But in some cases, automation actually makes fraud easier to perpetrate. For example, Check 21, a federal law that allows for the processing and creation of digital check images and substitute checks, is expected to save the banking industry billions. But, because Check 21 automation makes digital images of checks available to online customers, criminals can more easily gain access to the information they need to create counterfeits. CIOs can minimize potential losses by developing antifraud strategies in the initial design phase of an automation project, and they can make combating fraud a priority. To do this, CIOs will have to reach out to the executive in charge of fraud detection, typically the CFO. It's up to CIOs to lead the effort to make antifraud strategy one of the drivers in automating operations. *By Allan Holmes*

56 | A NEW WAY TO MANAGE VENDORS

ORGANIZATIONS GRAPPLING with more complex IT offerings and juggling multiple vendors are increasingly forming vendor management offices (VMOs) within their IT departments. They're looking for cost savings, but also better service and more control over the technology buying process. With a VMO, a CIO can more easily manage relationships with multiple vendors, keep track of performance, and negotiate discounts on IT products and services. CIOs with VMOs report significant savings on software, hardware and telecom services. VMO managers should be experienced in IT as well as finance and legal issues. The VMO can be an actual office or a virtual team, but it should be centralized and located within the IT department. The group should be endowed with strong authority, the better to convince vendors to play ball. But CIOs should be careful to not exclude project managers from the procurement process. Otherwise, they may resent the VMO, and this could cause problems for IT implementations. *By Susannah Patton*

62 | GLASER FACES THE MUSIC

BETWEEN EARLY AUGUST and mid-September 2004, Partners Healthcare's electronic medical records (EMR) system either went down completely or became difficult to access 25 times, denying doctors their patients' histories. Partners CIO John Glaser confronted a potential medical mutiny. Recognizing both the business and the emotional significance of the failures, Glaser put other projects—including all new EMR system deployments—on hold and had the technology team focus solely on the problem. Meanwhile, Glaser made himself the single point of contact for anyone approaching IT, explaining to his CEO, the administrators and the physicians exactly what was going on and exactly what was being done about it. Once the problem is resolved, Glaser will turn his attention to reestablishing his department's credibility and resuming the EMR system rollouts. *By Ben Worthen*

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